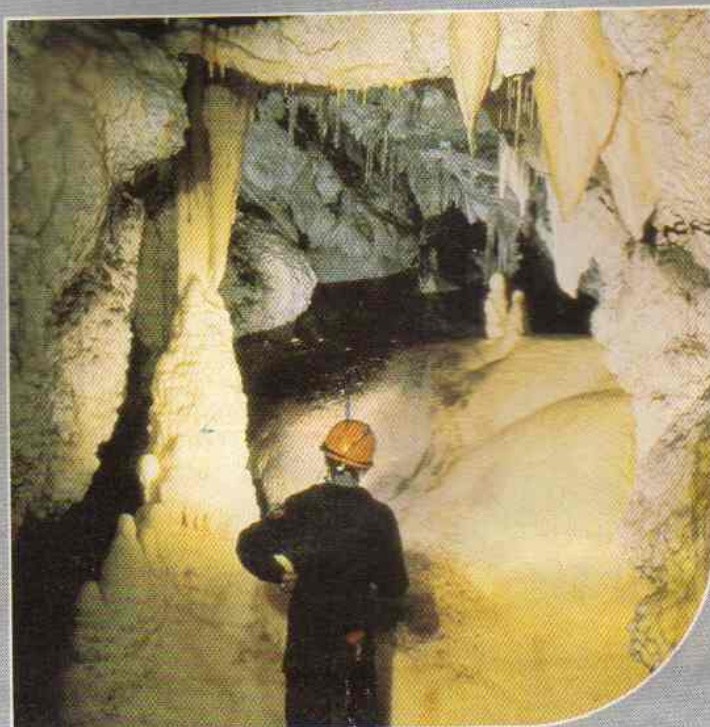
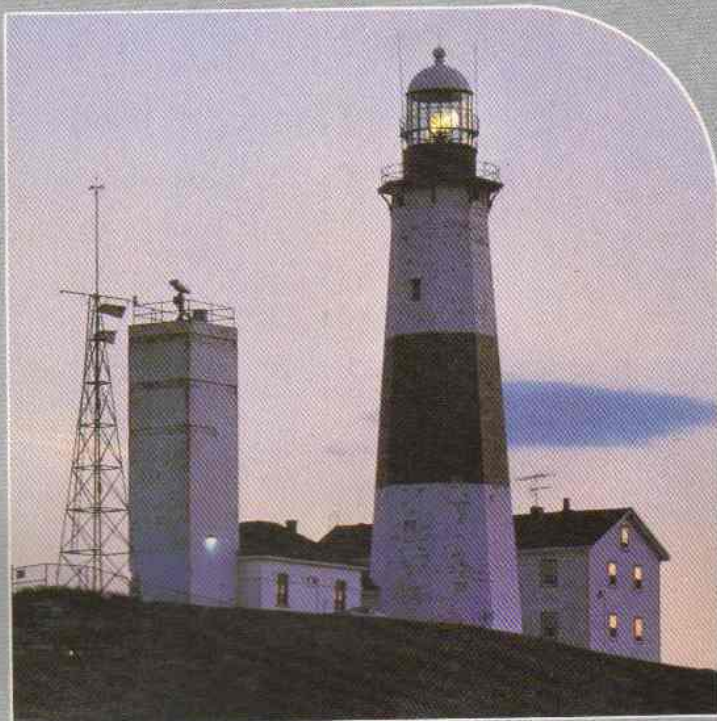
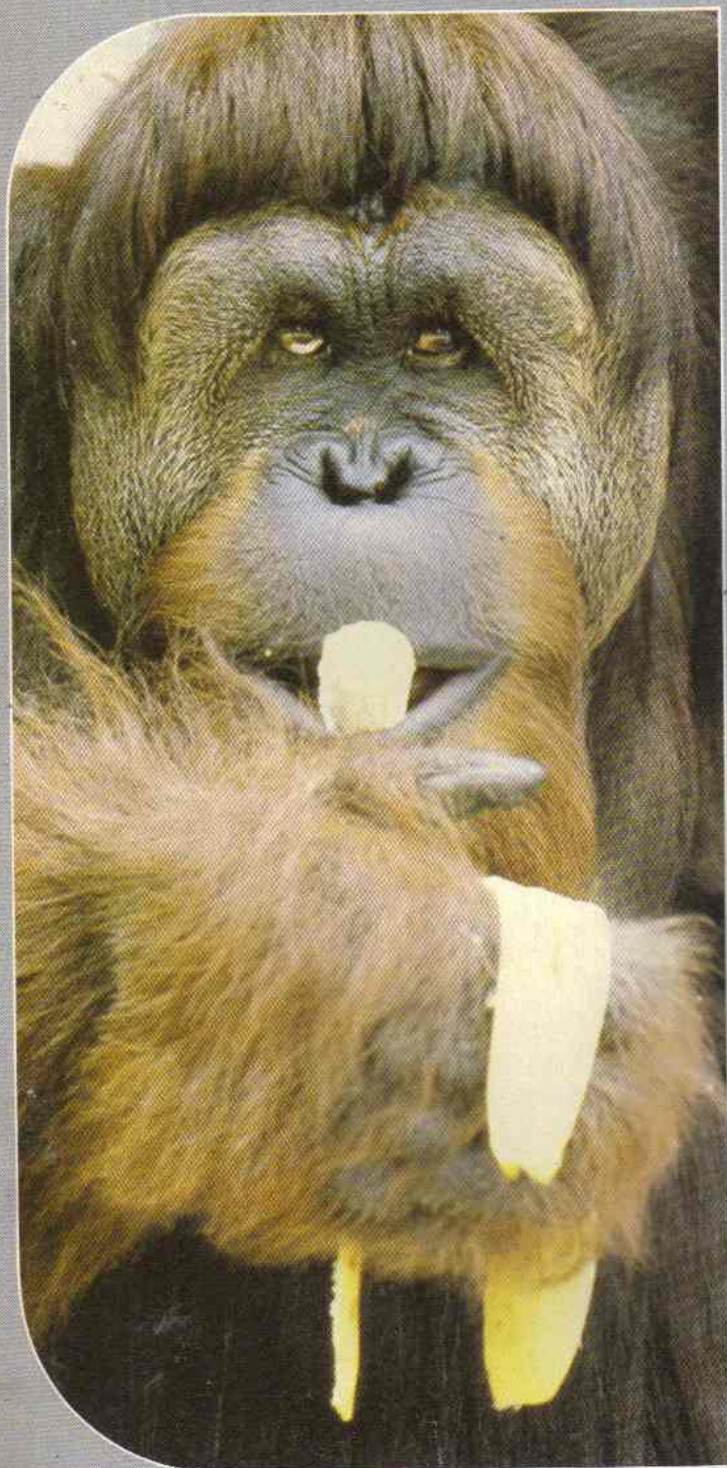
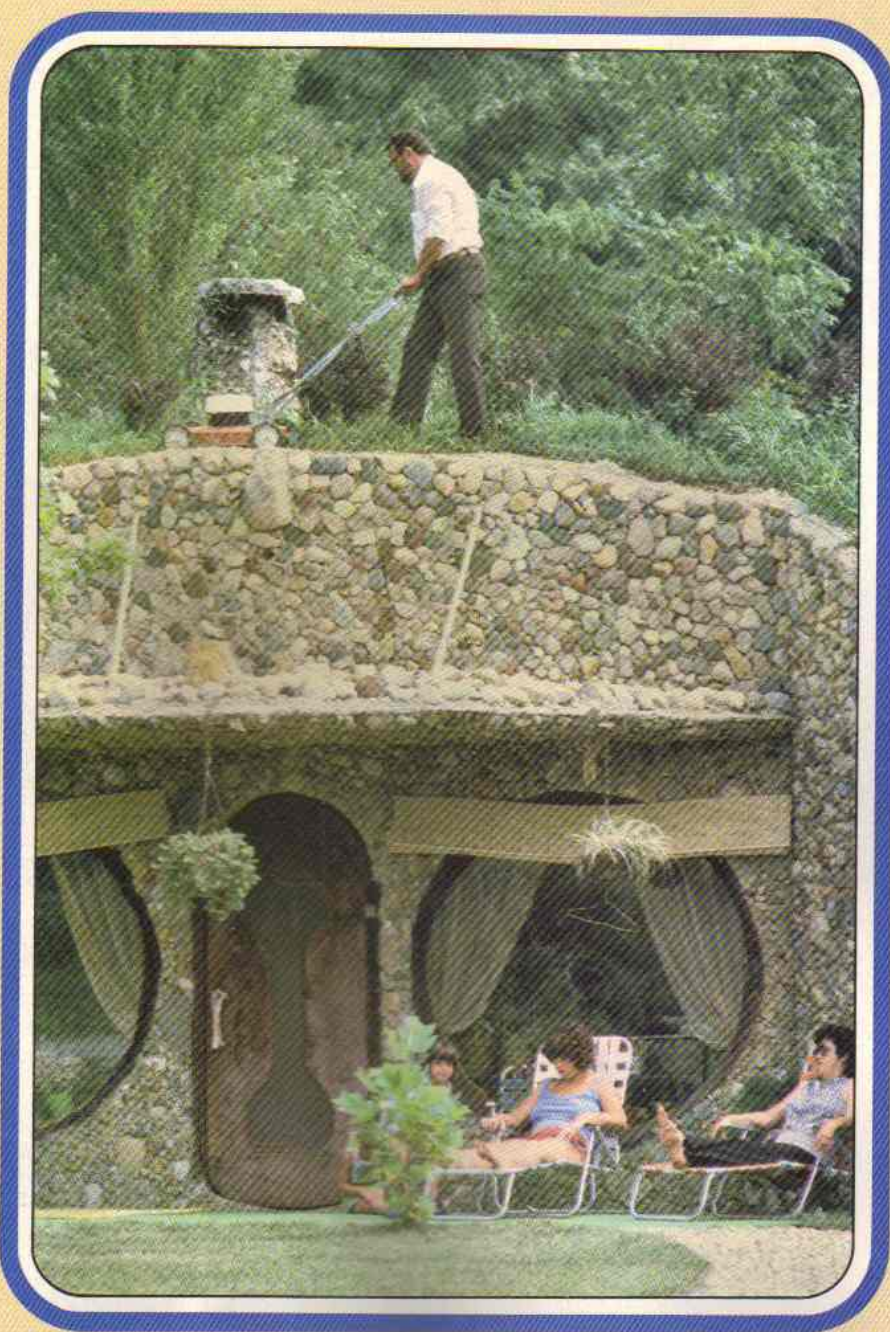


321 CONTACT

Feeding Time at the Zoo!





Little House Under the Prairie

Do you think mowing the lawn is trouble? Well, how would you like to mow the roof? If you had a house like this one, you'd have to cut the grass in front of your house and on top of it, too. To save energy, this home was built partially underground.

It's just one of many different homes that have recently been designed. You might even live in one like it yourself someday. To find out more about houses of the future, turn to page 12.

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Page 4



Page 8

321 CONTACT

Page 12



Page 16

Page 20



Page 22

Page 24

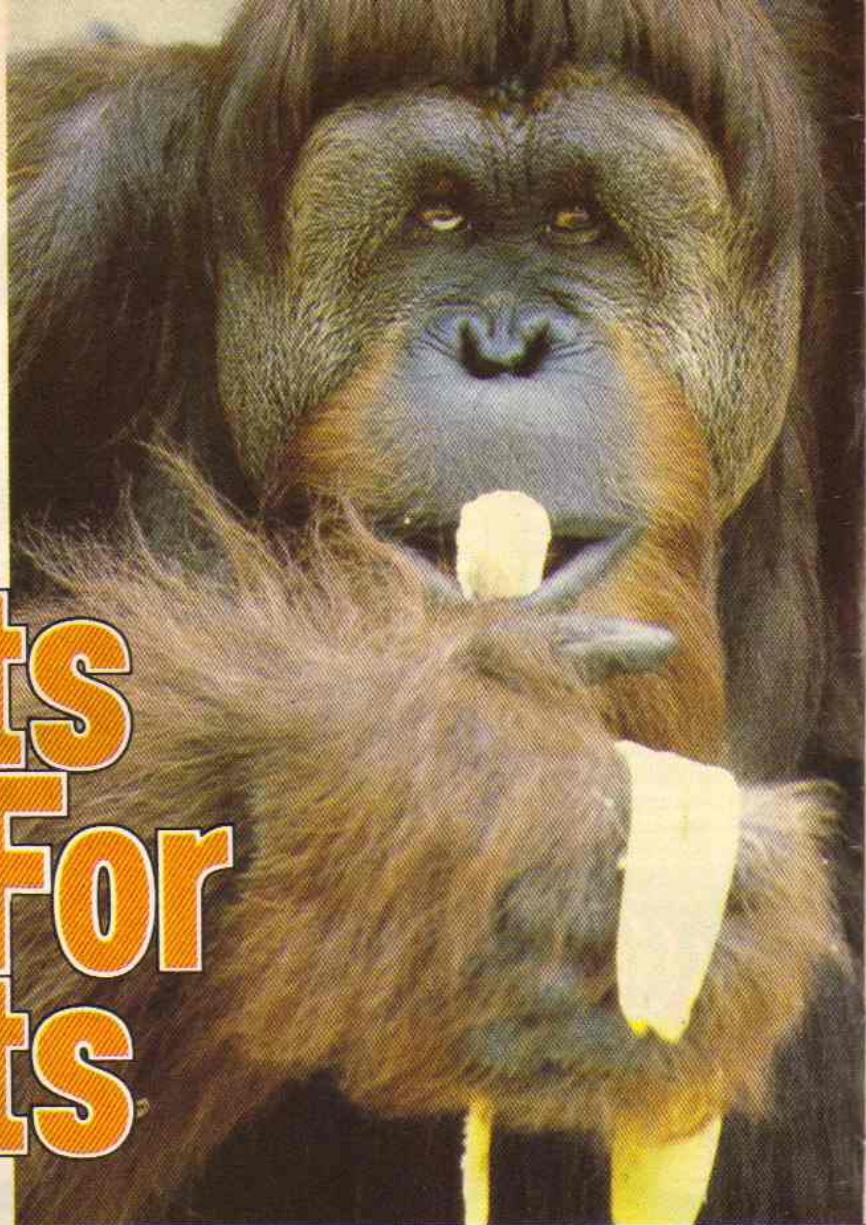


Featuring This Month

- 4** Feasts for Beasts:
Feeding Time at the Zoo
- 12** Houses of the Future: Foams,
Domes and Mobile Homes
- 16** Menu Match: A CONTACT Quiz
- 20** Poster: Animals of the Prairie
- 24** A Guiding Light:
Keeping People Safe at Sea
- 28** The Bloodhound Gang: The Case of
the Vanishing Lighthouse (Part One)

Plus Our Regular Departments

- 8** Factoids
- 10** Any Questions?
- 18** List of the Month: What's the Hurry?
- 22** Contact Report
- 31** Do It!: Maze
- 32** Mail
- 33** Letters
- 34** Reviews & Previews
- 36** Experiment: Tweeter Feeder
- 37** Did It!
- 39** Earth Works: Prairies



Feasts FEEDING TIME AT THE ZOO For Beasts

by Joyce van Meer

Ever think it's hard to feed your pet? Then imagine what it would be like feeding nearly 3,000 animals every day at the zoo. You couldn't just open 3,000 cans of dog food. Some of these animals eat worms and crickets. Others gobble oats and hay by the bucketful. Still others must have vitamin-soaked fruit, live mice or fresh fish. If you aren't careful, some animals even eat their neighbors.

Feeding animals at the zoo is a big job. The National Zoo in Washington, D.C., spends half a million dollars a year on food for its animals. It takes a crew of 86 people working all hours of the day to make sure that the animals stay well-fed.

A Wild Shopping List

Can you imagine a weekly shopping list that includes hay and bamboo, crickets and roaches, some rats and mice and a few thousand worms? Yuk! You wouldn't exactly take a list like that to a supermarket. The National Zoo doesn't shop there either.

Above: Orangutans love bananas. But they need other foods, too, for a balanced diet.

Whenever possible the zoo grows and raises its own food. Sometimes this happens right at the zoo. Some bamboo in the park, for example, is clipped to feed the pandas and monkeys. But most of the food is grown at the zoo's research station 70 miles (112 km) away. At Front Royal Conservation and Research Center, hay is grown for the giraffes and elephants. Elephants also get plenty of oat grass which the zoo grows in tubs of water without using dirt. This grass is very popular with hippos and antelopes.

Crickets and cockroaches are two of the animals raised by the zoo for food. Many animals, including lizards, snakes, birds and skunks, eat these insects. The crickets must be grown in three different sizes to make sure they are right for all the animals that eat them.

The zoo buys some food, of course. For popular

fruits and vegetables like oranges, carrots and celery, it orders them by the truckload. The zoo also buys horse meat for the big cats, fresh fish for the seals and worms for the birds.

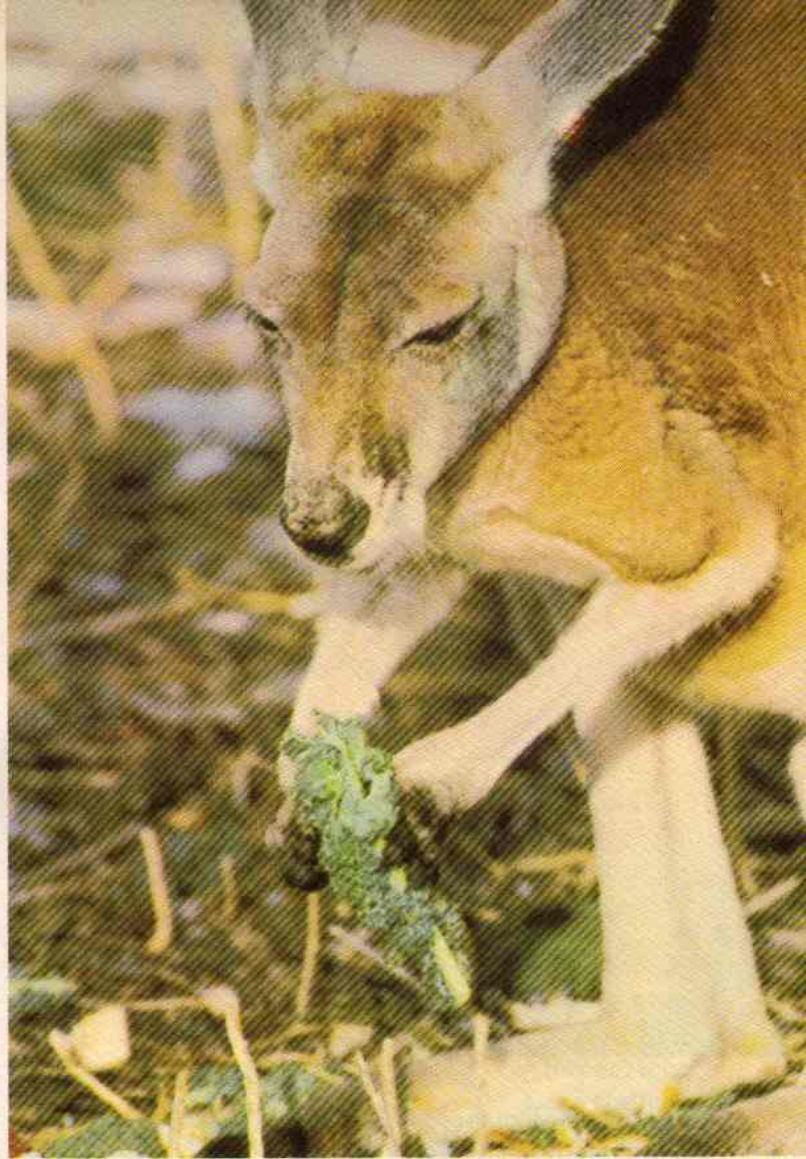
Fresh food is expensive, though. So some zoo animals are now fed special mixes. These foods look like dry biscuits or pellets that you may feed your dog or cat. They're even made by the same companies that make pet food. For the elephants and zebras, they make grass-eater pellets. Monkeys get a special primate mix. It comes in cans like dog food, but is blended to fit a monkey's diet.

Chow Time

Getting ready for feeding time starts in the middle of the night for the zoo staff. All this food must first be weighed and chopped. Vitamins may be added or a dash of feather conditioner for the birds. Eggs are boiled for the apes and others. Frozen rats and fish must be defrosted. It is the middle of the day before some of the animals finally get to eat.

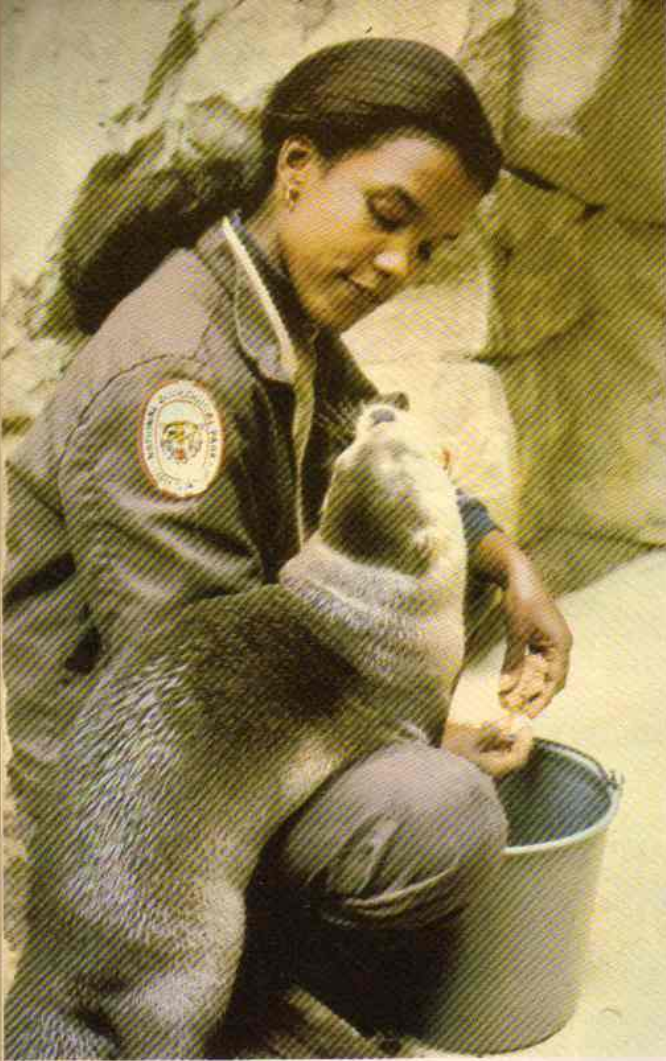
When the food is ready, it is delivered in bins to the different animal houses. Then the zoo keepers for the different animals take over. They watch to see what each animal eats or avoids. One fussy eater ➡

Right: This kangaroo eats green vegetables since he can't get the grasses he would eat in the wild.



Sea lions get fed fresh fish by their keeper. When she shows up, they come to meet her.





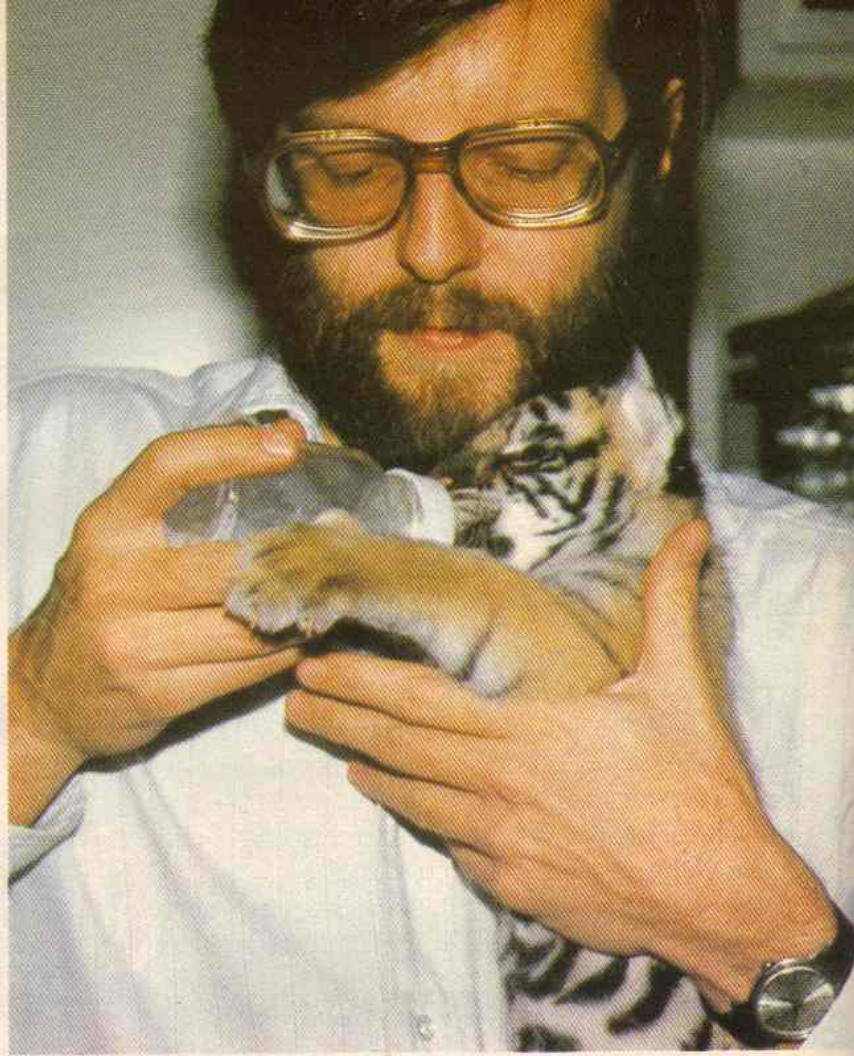
Above: This sleek animal is a river otter. A diet of fish and vitamin supplements keeps its fur shiny.

is the zorilla or African skunk. Fish, boiled eggs and even baby chicks are provided to keep this animal interested in eating. Even with this variety, however, the zorilla only wants to be fed by a certain keeper. If the wrong one appears, the zorilla dumps the food and bangs the dish against its cage.

Apes are especially tricky. One orangutan does not like oranges but loves bananas. Whenever she gets the chance, she trades her oranges to her mate for a banana. The zoo staff doesn't like this swap. It gives both animals an unbalanced diet.

"You can't rely on an animal to select the best diet for itself," says Dr. Olav Oftedal. "Like people, animals eat too much of the things they like." Dr. Oftedal is an important part of the zoo's food team. He is an animal nutritionist.

Animal nutrition is a new and important science. As the world's only full-time animal nutritionist, Olav's work is important. Years ago, most zoos simply fed animals whatever they would eat. No one expected zoo animals to live very long. And sure



Above: Feeding a bottle of milk to a baby tiger is one of many jobs done by Dr. Olav Oftedal, the zoo's nutritionist.

enough, many of them died young. To replace a dead animal, the zoo just bought another one.

Today's zookeepers need to take extra care of such endangered animals as polar bears and tigers. Feeding these animals the right foods in zoos can help them live a long time and raise babies. For animals that are rare in the wild, this is very important. Feeding and raising them in zoos will be the only way people can keep any of them alive.

The Lizard Lesson

The story of the National Zoo's day gecko lizards shows how good important nutrition can be. At first, these beautiful green lizards ate crickets and other insects. They seemed active and healthy. But then they got weak and seemed to limp along. They could no longer climb well. Some of the lizards died.

After studying their bodies, the zoo learned these geckoes hadn't gotten enough calcium. So a better diet had to be found. The zoo started giving the other geckoes roaches several times a week. They also got a

banana covered with vitamin solution. Crushed oyster shells were left nearby to provide them with even more calcium.

Finally, Dr. Oftedal had an even better idea. Now, insects that the geckoes will eat are fed with a high-calcium food. When the geckoes gobble up these insects, they're getting their calcium directly.

As soon as the zoo solves one feeding problem, of course, another one crops up. Consider the new monkey island exhibit opening up in Washington this spring. Living there will be a troop of eight Barbary apes. Their island looks like the apes' natural home near the Rock of Gibraltar. Plenty of plants are growing everywhere. Unfortunately, Barbary apes like to eat these plants. How can the keepers let the hungry apes roam freely while keeping the greenery safe on monkey island? That's one more animal feeding problem for the National Zoo to solve!

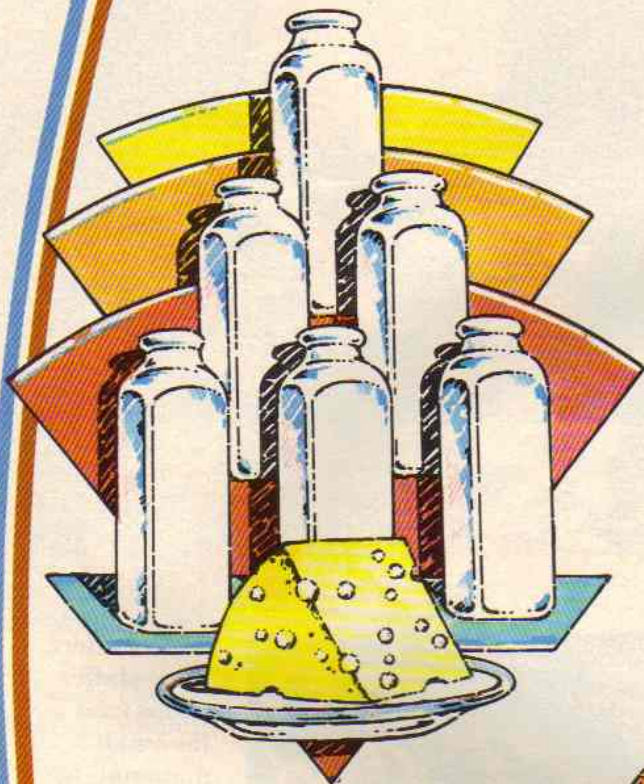


Above: Here, a zoo staffer chops food for the small mammals to eat. Each kind of animal gets a different variety of food.

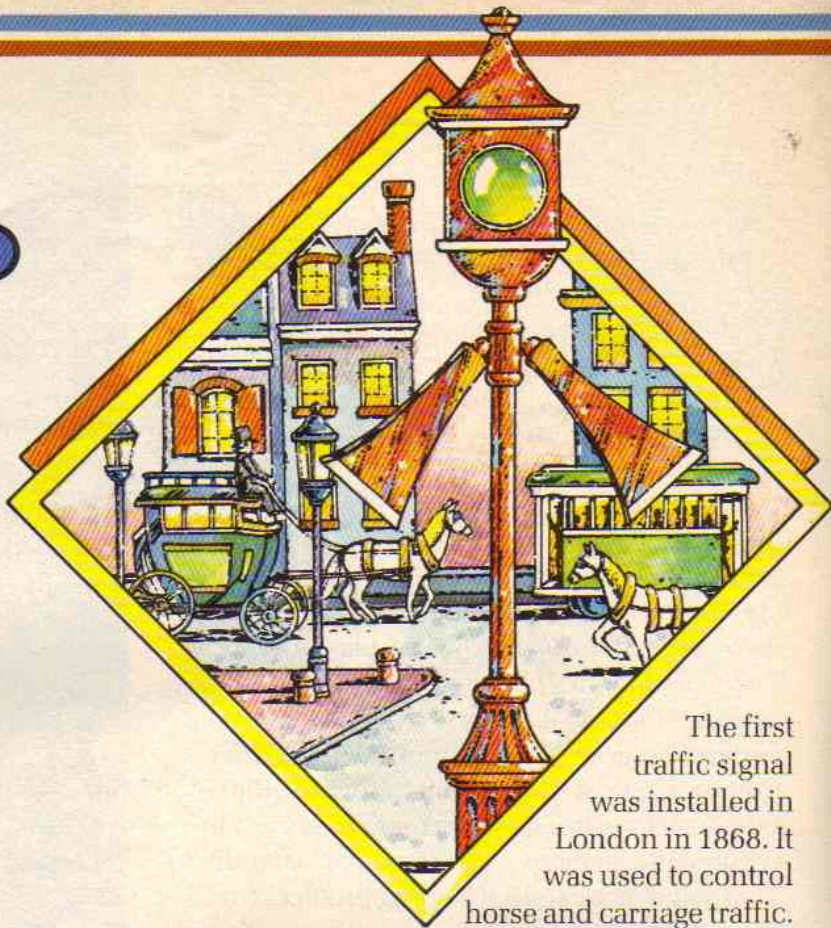
Left: Giraffes can't nibble leaves from the trees here like they do in Africa. So they have to settle for hay or grass that's grown by the zoo.



Factoids



It takes about six quarts of milk to make one pound of cheese.



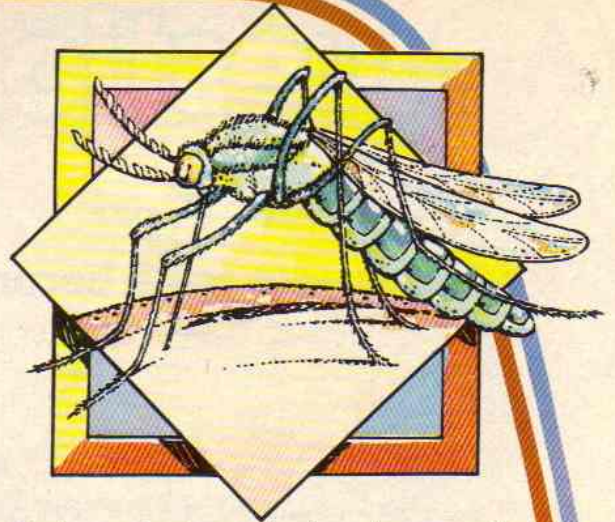
The first traffic signal was installed in London in 1868. It was used to control horse and carriage traffic.



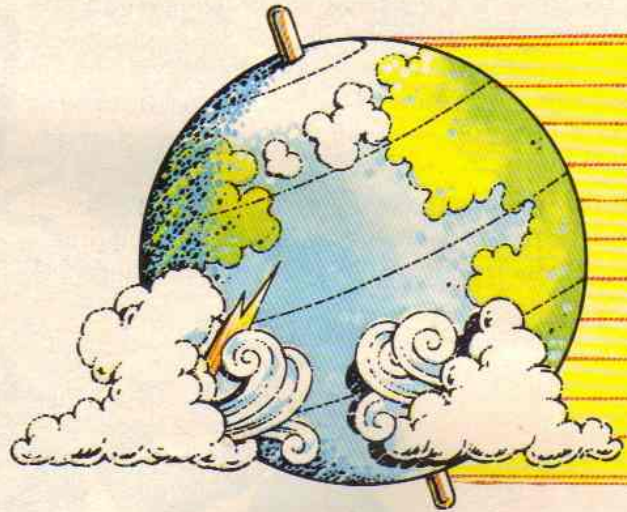
The average adult elephant is covered with about a ton of skin.



Your fingernails grow faster than your toenails.



During a single meal, a female mosquito can drink her own weight in blood.



Because of the tilt of the earth, winter lasts about 93 days in the southern half of the world but only 89 in the northern.



The largest omelet ever made was cooked by college students in Ontario, Canada. They used 12,440 eggs!

Any Questions?

by Susan Meyers

Why does your tooth become loose before it falls out?

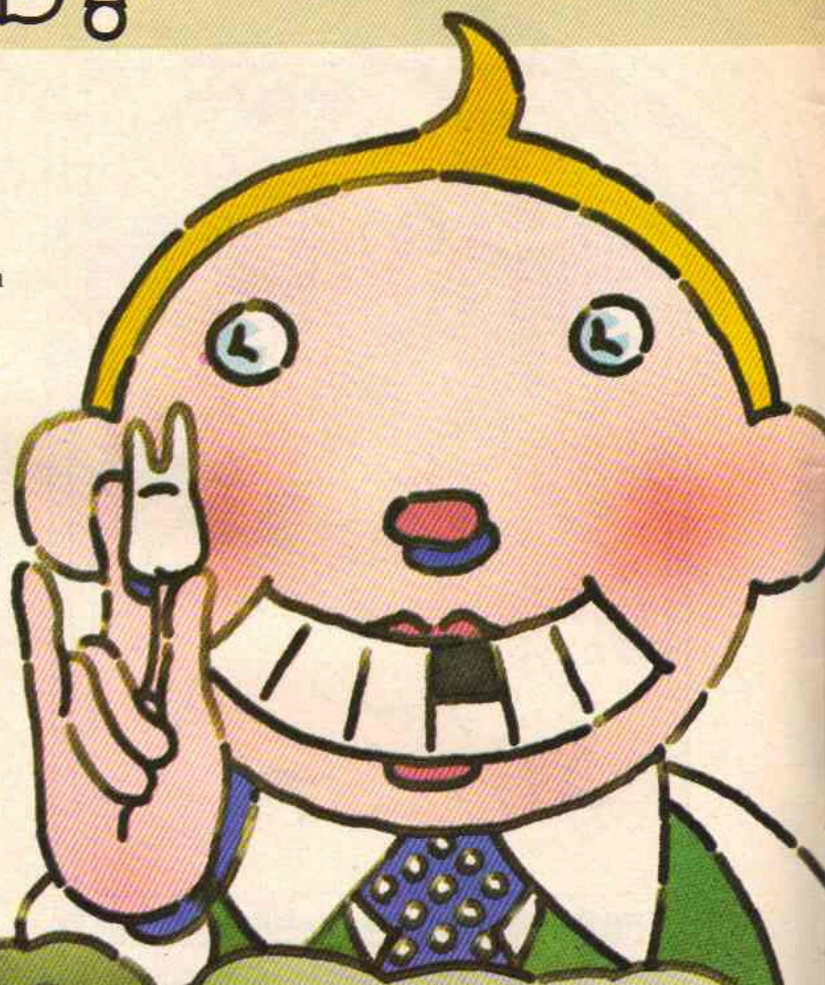
When a tooth is loose, you wiggle and push it for days. Then all at once, out it pops, ready to be put under your pillow, for you-know-who.

As you wiggle your tooth, it feels as if something is holding it in place. Sure enough, there is. At the root of the matter is just that—the root of your baby tooth. You can't see the root though. It's inside your gum. When the root disappears your tooth falls out. The cause of the root's mysterious disappearance is your brand-new adult tooth.

The adult tooth begins as a tiny bud under the baby tooth. As the adult tooth gets bigger, it presses on the root of the baby tooth. Slowly, the root wears away.

As the root disappears, the baby tooth loosens. When the root is gone, the tooth falls out. But don't worry. By then your adult tooth grows in to take its place.

Question sent in by Rob Brooks, Richmond, VA.



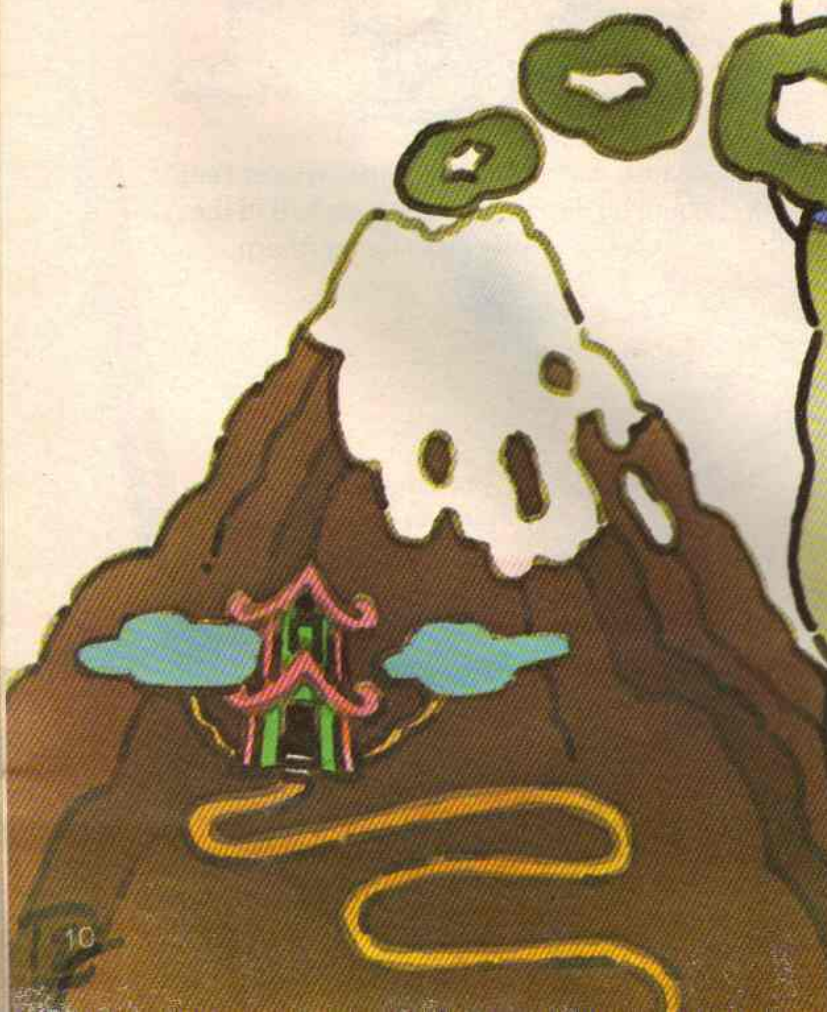
How are mountains formed?

Take a walk outside. The ground feels solid as a rock. But even as you walk around, the earth beneath your feet is never still. It is these movements deep inside the earth that form mountains.

Usually, no one lives long enough to see the entire process of a mountain forming. But a case in Mexico was different. People there saw a mountain grow right in the middle of a cornfield. In 1943, Paracutin volcano began as a tiny hole. Several weeks later it ended up as a giant mountain of cooled lava.

The volcano in Mexico may be 40 years old, but it is considered a very new mountain. Most of the world's mountains formed millions and millions of years ago. As the earth's surface wrinkled, slipped and rose, new mountain ranges formed. Movements that create mountains are usually so slow that no one is aware that they are happening—all the time!

Question sent in by Matthew Nickles, Spotswood, NJ.



Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

Any Questions?
3-2-1 CONTACT
P.O. Box 599
Ridgefield, NJ 07657

Why can you hear the roar of the ocean in a seashell?

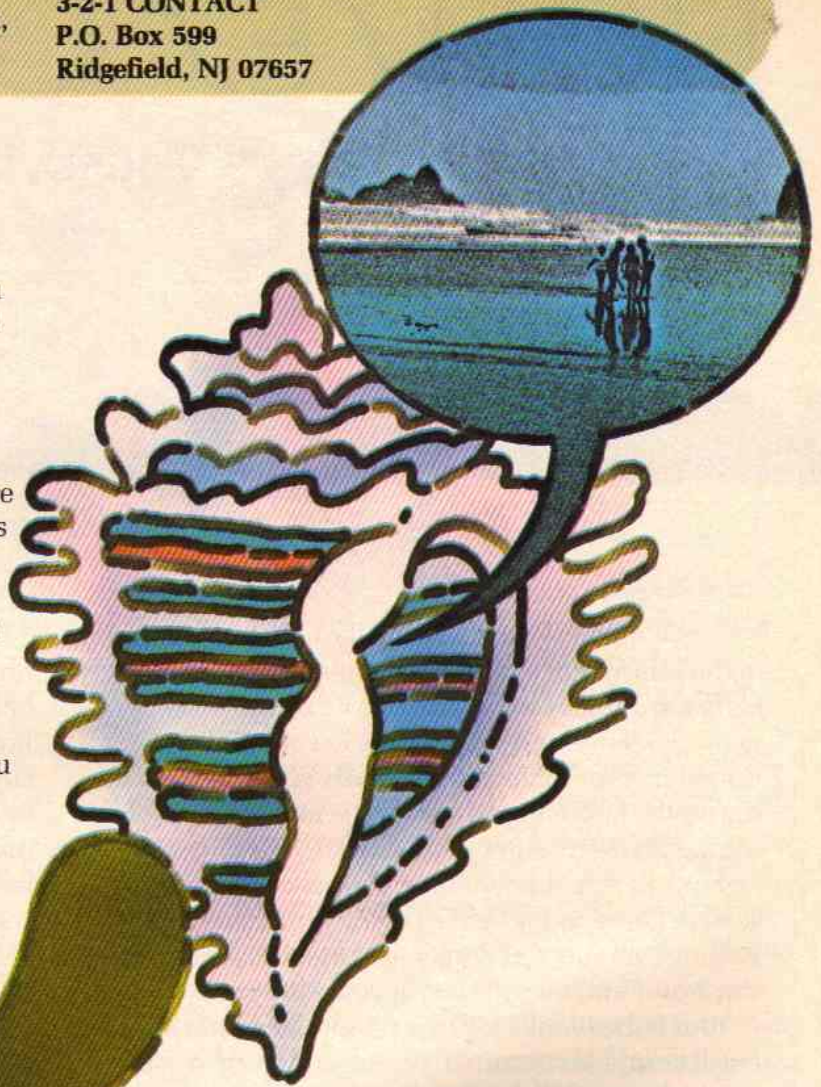
When you hold a shell to your ear, suddenly, there's the ocean! Actually, the sounds you hear in a shell have nothing to do with the ocean. They are simply the stray sounds around you.

The noise around you is made louder by the vibration of the air in the shell. The air molecules are bumping into each other. What you hear just sounds like the waves of the ocean.

You can hear the same thing in an empty coffee can or even a cup. That's not the sound of the ocean either. It's just the vibration of ordinary air.

When you control that vibration, you can make beautiful music. Much the same kind of vibration takes place in many musical instruments. When you strum a guitar, for instance, the strings vibrate. The sound waves pass through the wood to the air trapped inside the guitar. The air vibrates, making the sound greater. It's music to your ears!

Question sent in by Kim Johnson, Bloomington, IN.



Why is a healthy dog's nose cold and wet?

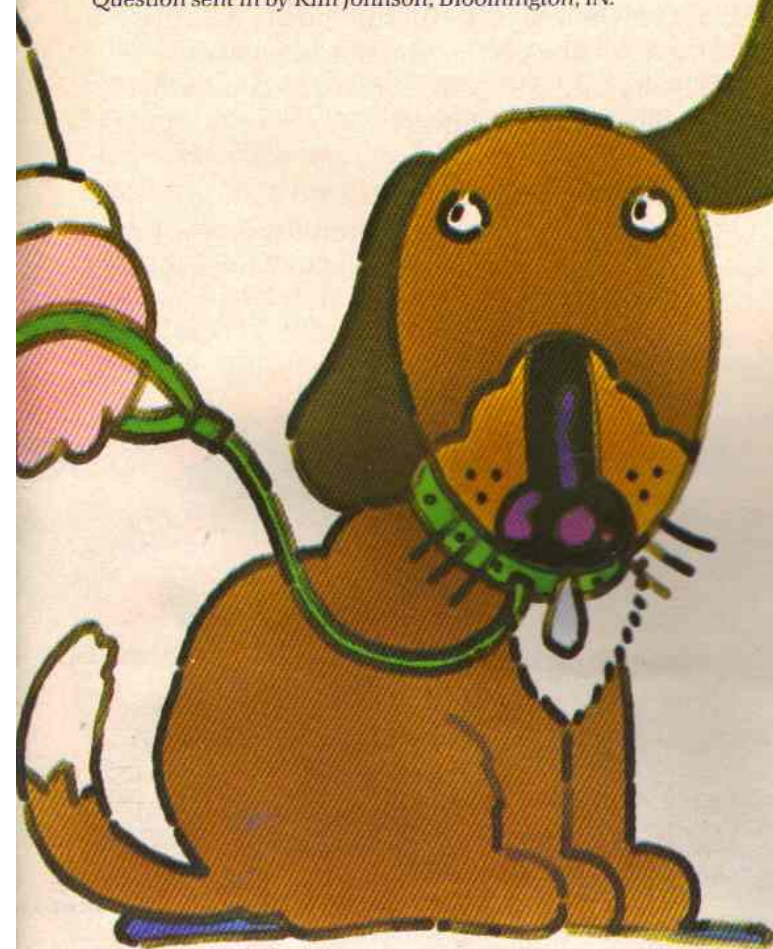
Have you ever taken a dog for a walk and noticed how much time it spent sniffing? A dog recognizes things by smell. It's nose is a dog's most important sense organ.

Normally, a dog's nose is cool and moist. A moist nose helps a dog to smell. Odors are carried through the air by tiny particles called *molecules*. The molecules stick better to a wet nose than to a dry one. And so, with a wet nose, a dog can better smell odors.

Mucus keeps a dog's nose moist. Like you, dogs have mucus glands. When the moisture of the mucus evaporates, a dog's nose gets cooled.

A dog with a warm, dry nose may have a fever. The fever causes all parts of its body, including the nose, to lose moisture. But a healthy dog can have a dry nose and a sick dog can have a wet one. So don't depend on the wet nose test. If you think your pooch is sick, take it to the vet.

Question sent in by Max Heerman, Appleton, WI.



HOUSES OF THE FUTURE

Foams, Domes and Mobile Homes

by Douglas Colligan

Ever wonder what it will be like to live in a home of the future? For a preview, imagine this scene. It's early morning. A soft electronic voice calls you by your nickname and says, "Time to get up." The drapes in your room automatically glide open. Heading for the kitchen, you stop at the main computer in the media room. After you type out your personal code, your schedule for the day appears on the screen. Oops, today is the day for your creative writing test. But you don't have to go to school. You'll stay home and take the test at your computer.

Your father walks into the room. He is carrying a small computer terminal. It is time for him to start his day's work. As he taps a red button, a wall closes off the part of the room he'll use as an office.

This is what life could be like *inside* a home of the future. But there will be more to these homes than

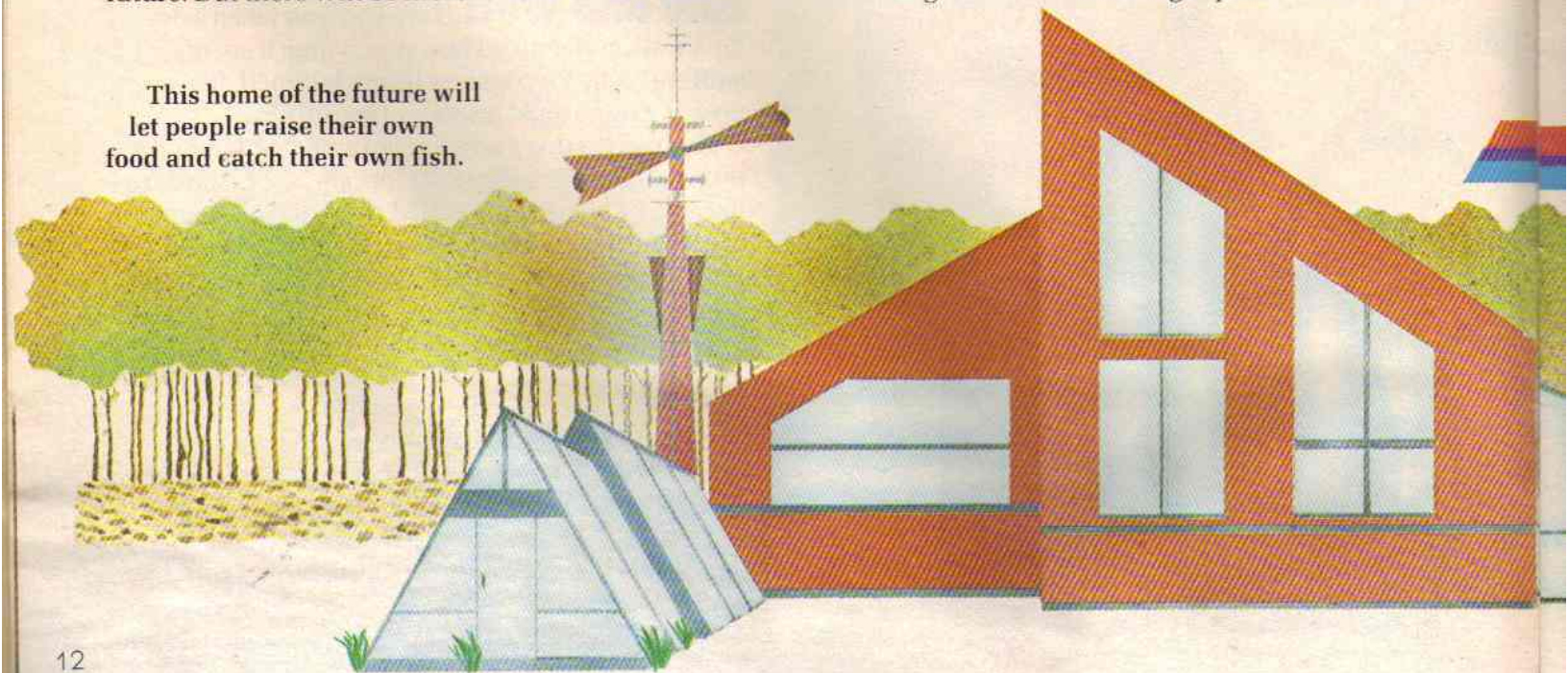
handy computers everywhere. The *outside* of the house might be really unusual, too. Your home might be built underground. Or it might be the kind of house that turns on a giant turntable to follow the sun. Or a home could even be sheltered entirely under a dome of glass. Whatever form future homes may take, one thing is clear. They will be as different from today's houses as modern homes are from log cabins.

What will homes of the future actually look like? Luckily, a few models for futuristic homes are already being built. Here are four far-out houses that might help predict the future.

Foam Home

Sculptec is one model for tomorrow's house. It is now being built in Florida. Light plastic foam is first

This home of the future will let people raise their own food and catch their own fish.





A foam home is more solid than you think. After the foam is sprayed, it hardens into a roof and walls.

sprayed over a group of dome-shaped molds. This foam isn't like shaving cream. When it dries, it forms sturdy walls and ceilings. Then the builder takes away the molds. What's left is a dome that looks a little like a giant clam shell.

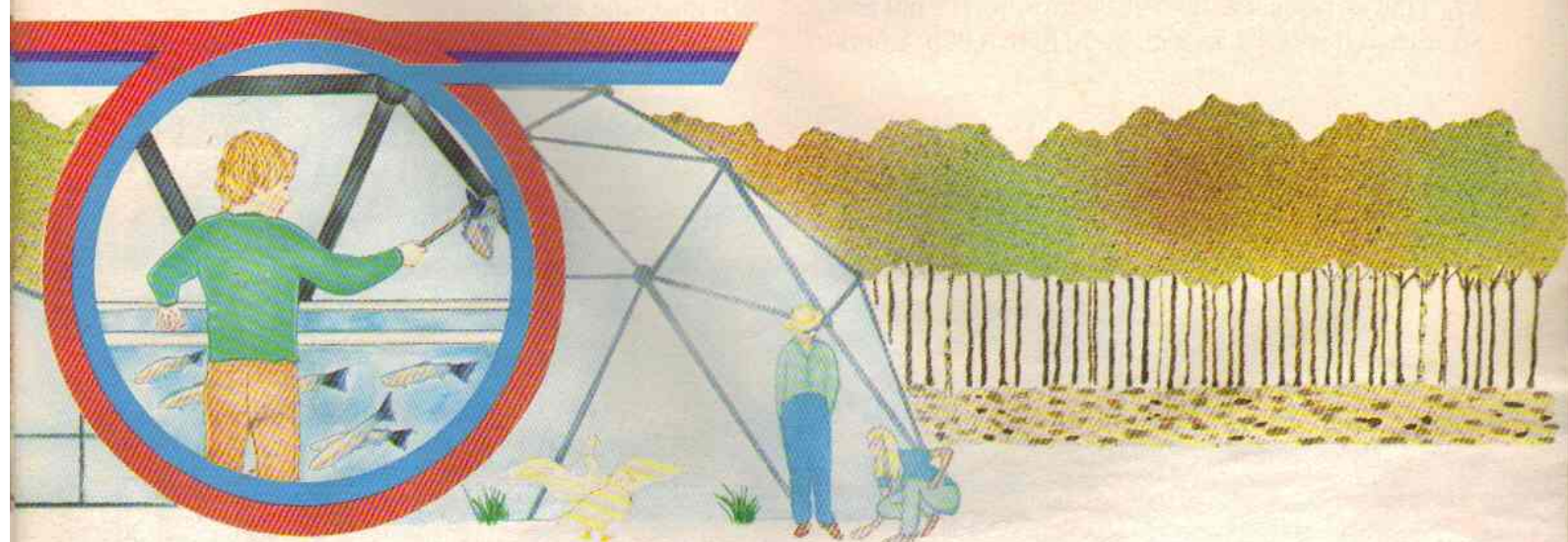
Why build a home of foam? It only takes a few days, for one thing. And for another, foam is a good insulator. A foam home takes one fourth less energy to heat and cool than a regular house. Sculptec will have both cozy cave-like little rooms and big open spaces as well. It will even have an indoor waterfall!

Like many future homes, Sculptec will be equipped with computers to help your family keep track of things. A computer will make sure each room is warm or cool enough. It will even turn your appliances on and off at the push of a button. Computers

will also control the entertainment system. You'll see television shows from around the world. Things will be beamed by satellite right into your foam home.

A New Kind of Farmhouse

Another kind of future home might provide people with most of the food they need. As food prices go up, some folks think it makes sense to grow your own food and to supply your own energy. In Massachusetts, there is a group of people who call themselves the New Alchemists (AL-kuh-mists). Long ago, alchemists were wizards who tried to turn cheap metals into gold. Today's alchemists are trying to turn wind and sunlight into food and energy. They think your future home should be like a house they built, called The Ark.





For food, you would grow fruits and vegetables in small gardens covered with domes. These clear plastic domes would keep plants growing even on the coldest winter days. Nearby, there would be large plastic tubs for raising fish. Here, you could harvest and catch your own dinner instead of going out to the supermarket.

An ark would get electricity from special windmills. And its heat would come from the sun. Large sheets of heavy plastic would soak up the sun's warmth during the day. This heat would be pumped by fans to a cellar full of heat-absorbing stones. At night, this warmth would heat the whole house.

Underground Home

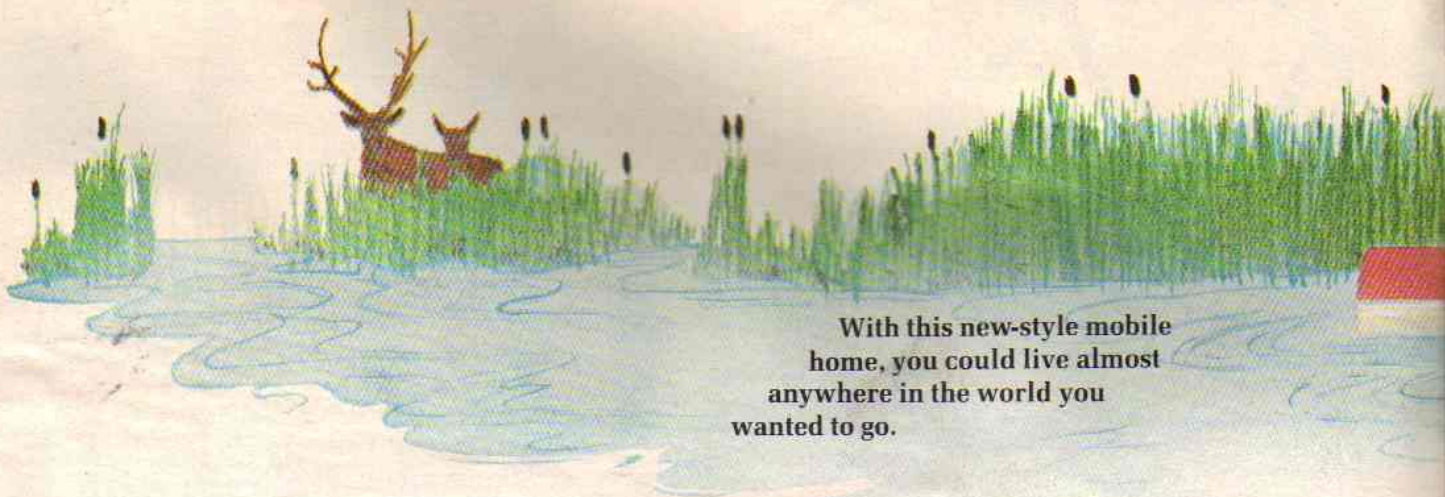
Some homes of the future will be built down, not up. That is, homes will go underground. It's not as strange as it sounds. In fact, more than 3,000 Ameri-

cans already live in underground homes! In Illinois, for example, a man named Andy Davis built an underground house. First he dug a large hole in the ground. Then he built a stone house in that hole and covered the roof with dirt.

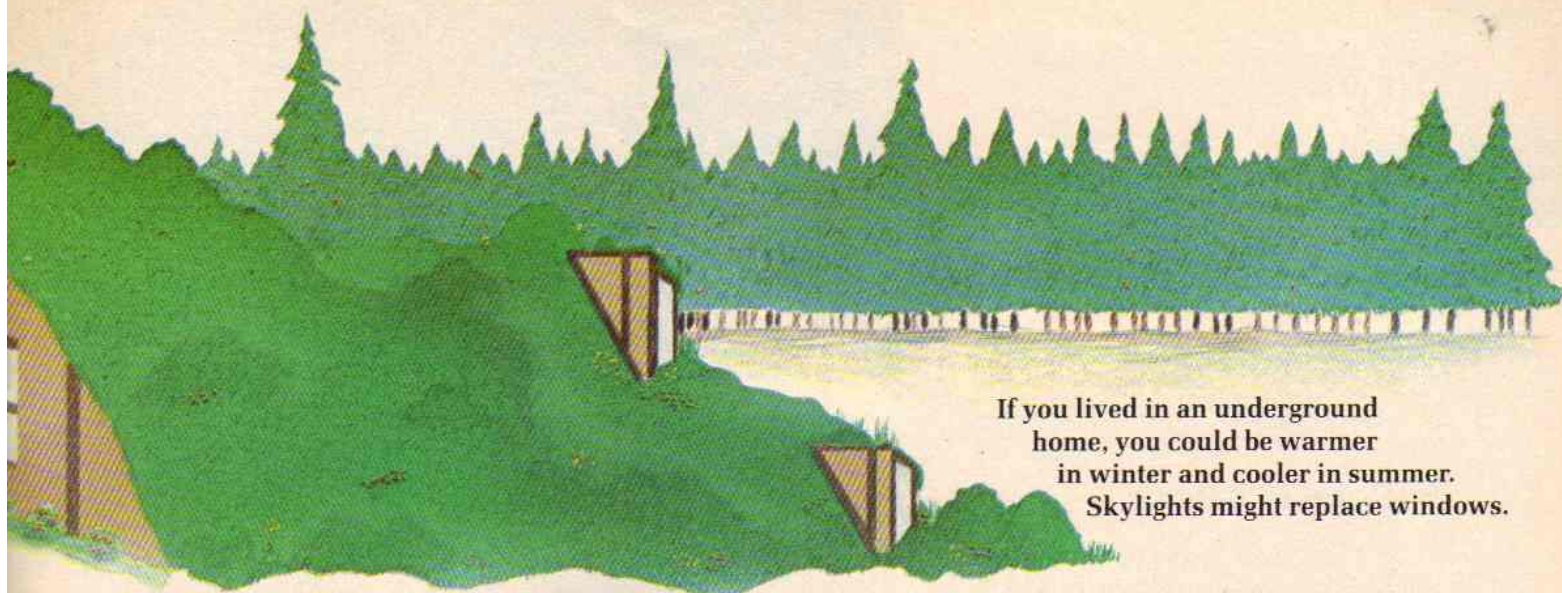
One side of Andy's house is left uncovered so plenty of light comes in. The house stays very cozy and dry. A layer of earth keeps it warm in winter and cool in summer. This house costs very little to heat. And except for having to mow his grass-covered roof, Andy says it is much like living in any other house.

There are a few differences, of course. If you lived in an underground house, you might have skylights in your ceiling, instead of windows in your walls. You would never have to help paint the outside of the house. And think about how safe you would be if a tornado came along!

Another plus for underground homes is that they



With this new-style mobile home, you could live almost anywhere in the world you wanted to go.



If you lived in an underground home, you could be warmer in winter and cooler in summer. Skylights might replace windows.

take up less land. Some builders in the country of France are now putting up a whole group of underground apartment houses. They're using the side of a hill that's too steep for an ordinary house. In fact, they can fit ten house-size apartments into a patch of land that could only hold two old-fashioned buildings.

Moveable Home

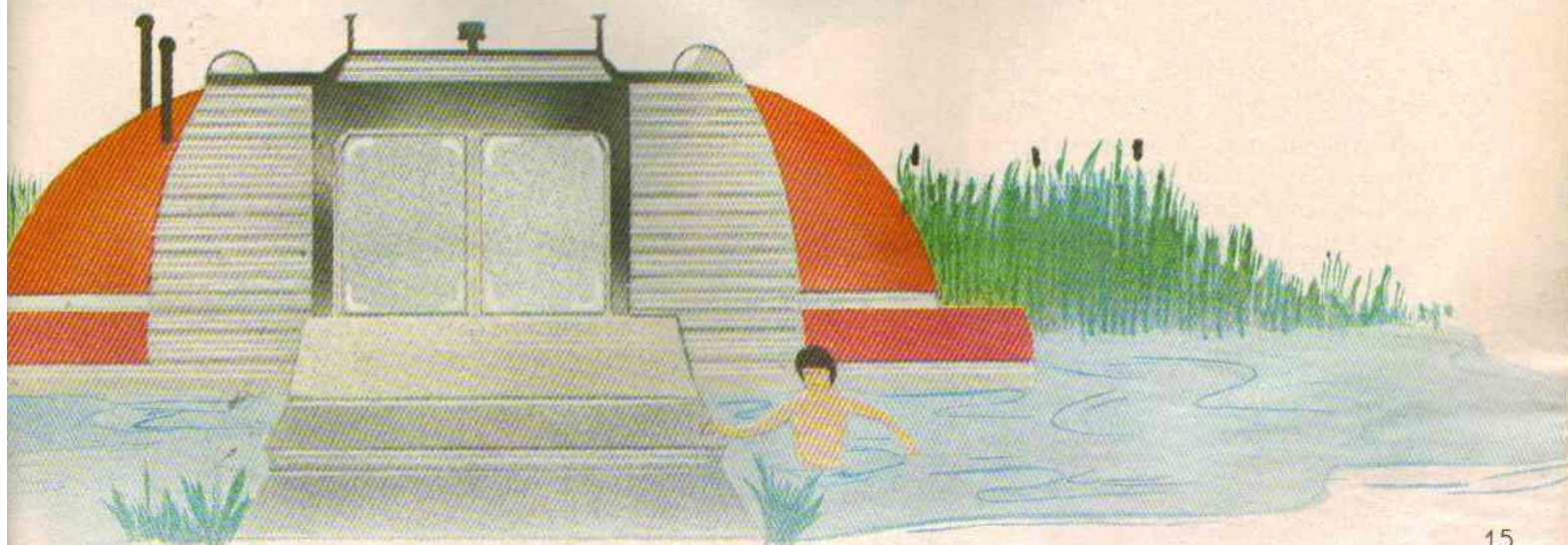
Even if you lived in a nifty future home, at times you might want to get out of the house. Luckily, there's a future version of the house trailer all ready and waiting for you. This is a little metal hut for two people that looks like a U.F.O. It can provide its own water and electricity. Special built-in panels turn sunlight into electricity. This little home even collects rainwater for washing and drinking.

The home on wheels is designed by Ted Bakewell

III. He calls it an ADV. That stands for Autonomous (meaning independent) Dwelling Vehicle. The ADV is small enough to fit into the cargo hold of a plane or boat so it can go anywhere. It can be put down on snow or ice—or even water, since it can also float. Who knows? The ADV might be your home when you're far away from your other future home.

Your Home?

Of course, in the future, not everyone will be living in an underground home. And you might not choose to travel in a funny metal hut. But some people will be doing these things—and others that are even more unusual. When inflatable homes are built, for example, one of them just might be yours. So take a deep breath and get ready for the future. Homes will never be the same again!



Menu Match

by Rebecca Herman

What do you feed an elephant? Anything it wants! Actually, in the story *Feasts for Beasts* you found out what elephants and some other animals at the National Zoo are really fed. Here's a chance to find out about a few more. Can you match these zoo animals to the foods they eat?

Answers on page 37.

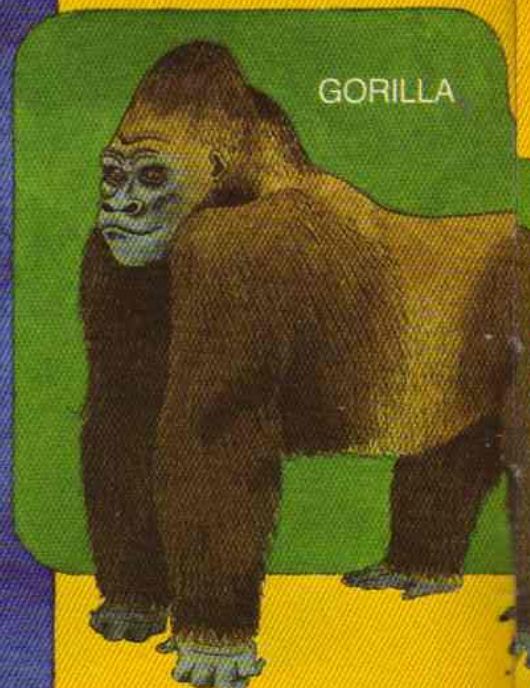
1. Cr-r-rack! This animal can open the hardest nuts. In the jungle, it eats fruit, seeds, berries and insects. In the zoo, it gets fruit, too—bananas, oranges and apples. And don't forget what every good diet has—vegetables! Like corn on the cob and chopped cabbage leaves. Parrot pellets round out the meal. Best of all are the tiny peanut butter sandwiches. But hold the jelly!

2. This animal is considered an endangered species. People hunt it for its beautiful fur. In the icy wild, it feeds on seals, fish, berries, leaves, birds and eggs. In the zoo, it gets a few pounds each of apples, carrots, horse meat and dog food. It also snacks on one ear of corn and 18 pounds of fish every day.

3. This animal is a vegetarian in the African wild. There it eats plants, roots, and some fruit. But at the zoo, the keepers must make sure its meals are balanced. So they feed this critter some cooked meat. It also gets non-fat dry milk, cooked and raw eggs, biscuits, rice cakes, chopped cabbage leaves, green beans, celery, apples, bananas, oranges and a vegetable. All in one day!



COCKATOO



GORILLA



PANDA



TIMBER WOLF

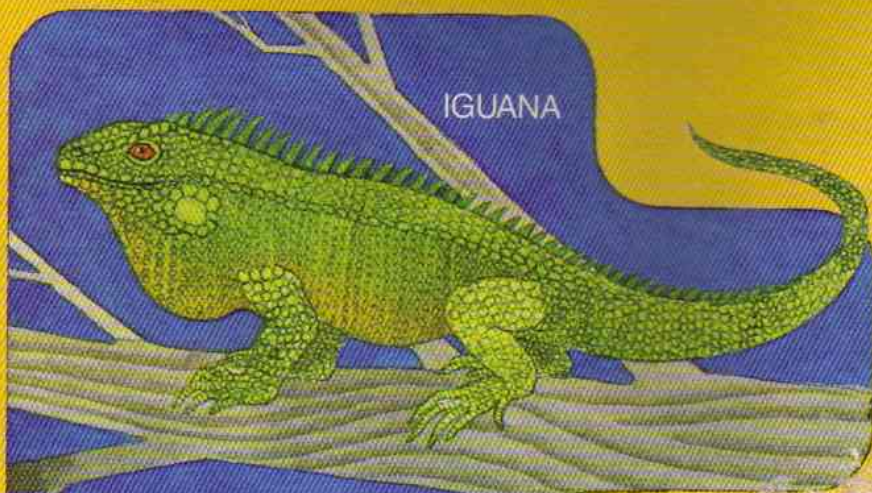


POLAR BEAR



LION

IGUANA



Tony Chen

4. In the wild, this animal travels in groups called packs. It hunts beaver, hares and sometimes has fruit. Even bigger animals are no match for it. Deer and moose are part of its diet, too. At the zoo, instead of fresh meat, it gets dry dog food, special cat food, chicks, oxtail and shankbone. And what about dessert? Dog biscuits are delicious.

5. At home in China, this animal spends most of its time looking for food and eating it. One of its favorites is bamboo. It also eats grasses, herbs, crocus flowers and small mammals. In the zoo, however, its diet is a lot more complicated. It is served bamboo, cooked rice, dried powdered cottage cheese, special cat food, carrots and apples. To balance out the meals, the keepers add vitamins and minerals to the food. And don't forget the two spoons of honey.

6. This South American animal is at home in the trees. It eats branches and leaves, fruit and small mammals. In the zoo, its diet is almost the same. It gets fruit, vegetables, ground meat and mice. Unlike most other zoo animals, it is not fed the same food every day.

7. In the African wild, this hunter kills and eats large animals such as zebra, gnu and buffalo. It will eat almost anything—even another animal's food. In the zoo, of course, it doesn't have to steal. It gets fed special cat food and horse meat or beef heart every day, except Sunday. Then, and on Wednesday, it gets a special treat—horse ribs.


List of the Month

What's the Hurry?

by Sandra Markle

How fast is fast? That depends on what you're talking about. Here are a few champion speedsters from the plant and animal world.

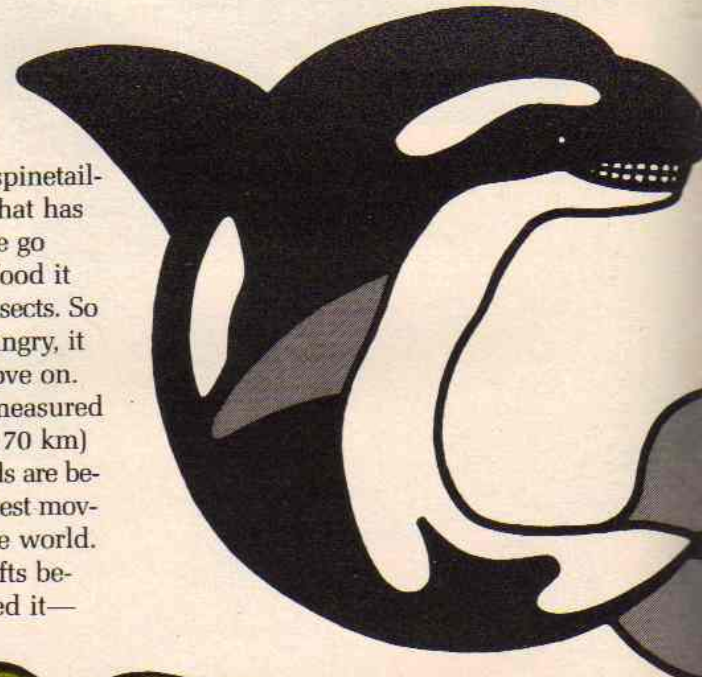
Hoofing It What animal is the fastest long-distance runner in the world? Nope, it's not the cheetah. A cheetah only moves fast over short distances. But nearly as fast at 60 miles (96 km) an hour is the pronghorn antelope. This animal can also hold a steady 40 miles (64 km) an hour for at least two miles (3 km). That makes the pronghorn antelope the fastest land critter over that distance.



The Swiftest The spinetailed swift is a bird that has to move fast or else go hungry. The only food it eats is live flying insects. So when a swift is hungry, it can really get a move on. Swifts have been measured flying 106 miles (170 km) an hour! These birds are believed to be the fastest moving creatures in the world. They're called swifts because—you guessed it—they're so swift!



The Incredible Growing Vine Can you believe that a vine can grow one foot (.3 m) in a single night? This plant is called a kudzu (CUD-zoo). When it was brought to the U.S. kudzu was planted across the South to keep soil from washing away. It was a success at first. But it kept right on growing. Now it covers over two million acres of farmland. Kudzu is called "the vine that ate the South."



Fast Fly Try to swat a fly and see what happens. Oops, missed! Flying insects move fast. Most zip along at about 5 miles (8 km) an hour. But the speediest is probably the dragonfly. Thanks to their large, strong wings, dragonflies have been clocked at 35 miles (56 km) per hour. The dragonfly has to move fast. That's the only way to catch its favorite food—other flying insects.



Tall Grass Most plants move on their own only when they grow. So they're slow, right? Well, not always. Bamboo is a kind of grass that grows amazingly fast. It can sprout up as much as three feet (1 m) in one day. Under ideal conditions, it keeps right on growing. Bamboo may reach a height of 100 feet (30 m). In Asia, people and animals eat bamboo's tender shoots. Talk about fast food!

A Whale of a Swimmer

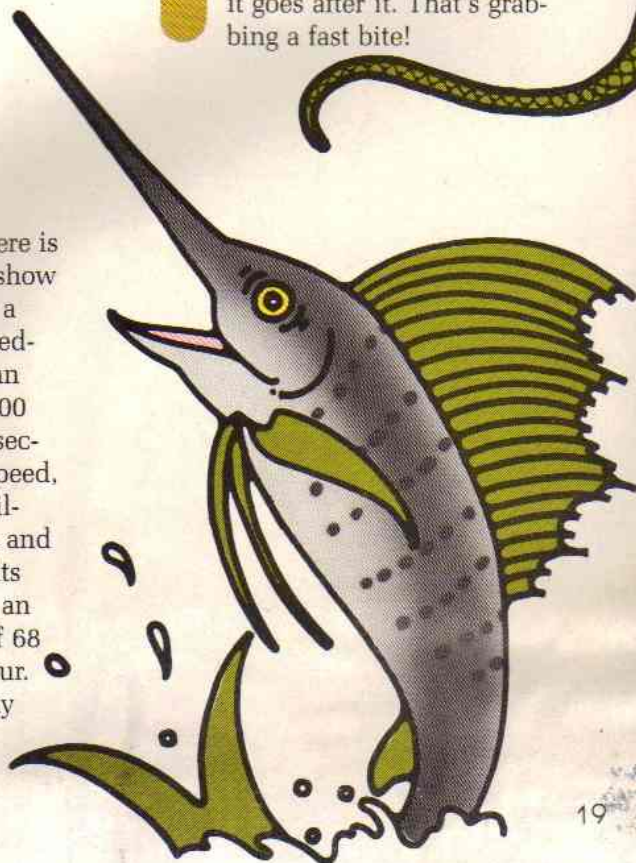
You wouldn't think a 10-ton giant could move quickly. But that's how heavy your average killer whale is. Even so, it is the fastest mammal in the ocean. For food, killer whales chase down seals, dolphins, walruses and smaller whales. A killer can swim at speeds up to 35 miles (56 km) an hour. The large fin on its back really helps this big animal to zip along in the water.



Speedy Snake Since snakes don't have feet or legs, most of them are pretty slow movers. But one snake that really slithers fast is the black mamba. It travels across level ground at speeds of seven miles (11 km) an hour. And the mamba can move almost as fast through the trees. When this African snake sees a lizard or some other small moving animal, it goes after it. That's grabbing a fast bite!



Underwater Sailor There is one animal that could show an Olympic swimmer a thing or two. This speedster is the cosmopolitan sailfish. It can swim 100 yards (91 m) in three seconds. For maximum speed, this fish lowers the sail-shaped fin on its back and folds it down against its body. The sailfish has an estimated top speed of 68 miles (109 km) per hour. That's faster than many motorboats!



Animals of the Prairie

Here are some of the animals that
live on the American prairie.



RED-TAILED HAWK

FRITILLARY
BUTTERFLY

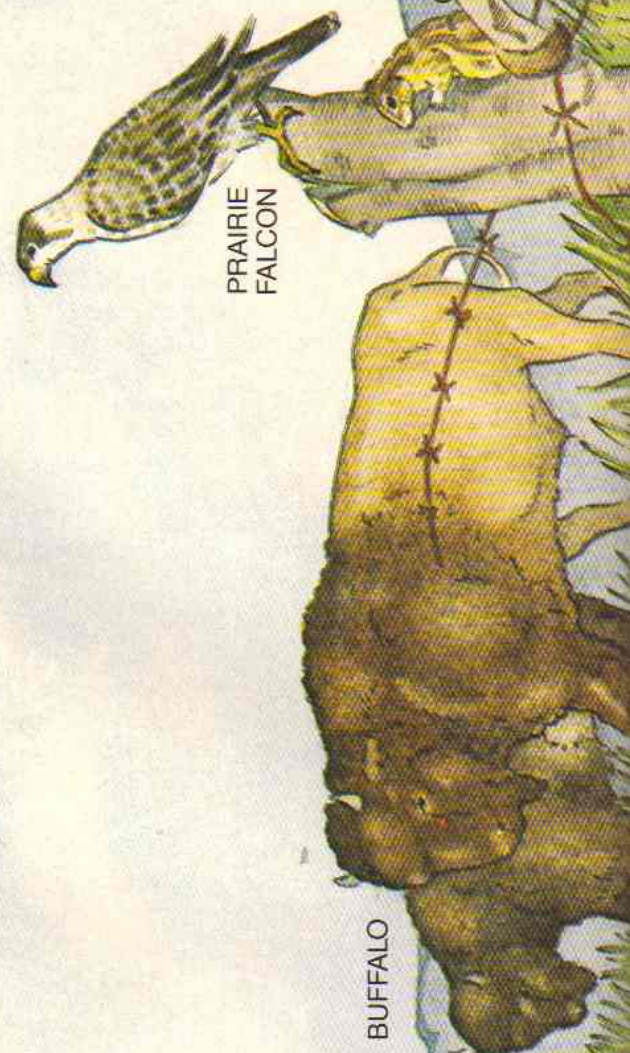
CUCUMBER
BEETLE



BUFFALO

PRAIRIE
FALCON

CHIPMUNK





MEADOWLARK

BADGER

KILLDEER

COYOTE

STRIPED SKUNK

BUMBLE BEE

PRAIRIE CHICKEN

BURROWING OWL

PRAIRIE DOG

PRAIRIE DEER MOUSE

PRAIRIE RATTLESNAKE

POCKET GOPHER

BULL SNAKE

GRASSHOPPER

JACK RABBIT

13 STRIPED GROUND SQUIRREL

RATTLESNAKE

Contact Report

Metal Muncher A machine you put empty cans into and get money from? That's the Cangaroo. This new recycling machine is being tested in five supermarkets.

Cangaroos look like large copying machines. You feed them aluminum cans. But the Cangaroo is a picky eater. First, it tests the can. If the can is not empty or is made of another metal, it spits it out. Only aluminum cans get crushed and stored. For each can it eats, the Cangaroo gives a one cent coupon. The cashier then gives you money for your coupons.

In 1981, half of the 43 million aluminum drink cans sold in the United States were recycled. It took a lot of energy to make the new cans. It takes only five percent of that energy to melt old cans and use the metal to make recycled ones.

Aluminum companies hope that machines like Cangaroo will encourage more people to bring back cans when they shop. So far, five Cangaroos have eaten over a million cans. Burp!

—Written by Judy Gordon



The Cangaroo gobbles up used cans for recycling.

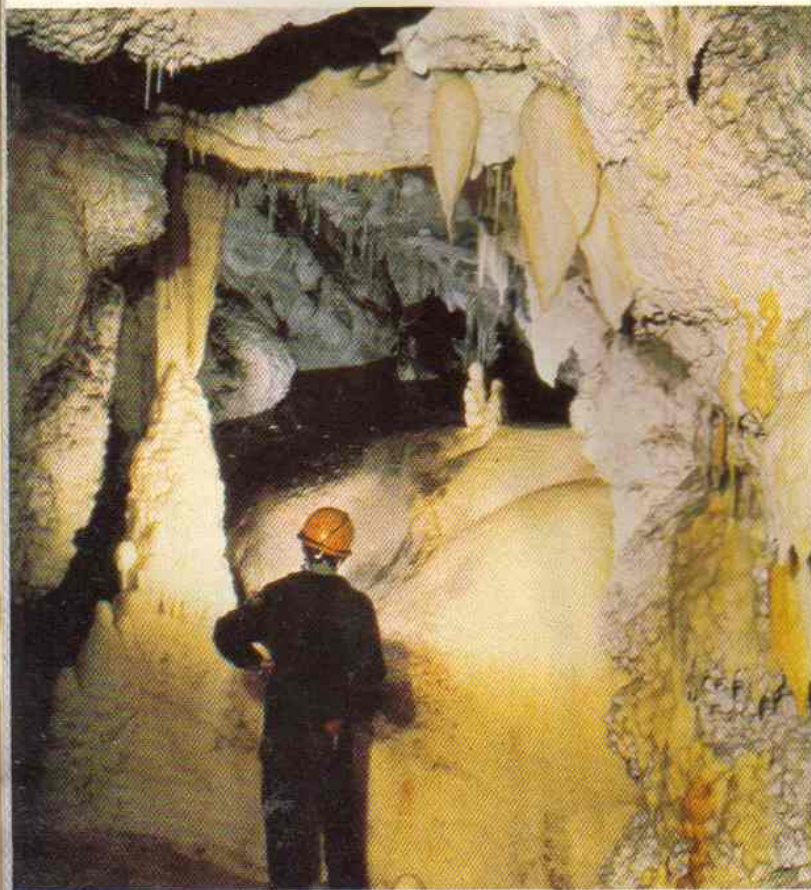
A Cave Rave Carlsbad Caverns is one of the world's largest caves. Now it's bigger than ever. A whole new chamber was recently discovered. In it are some of the most beautiful rock formations ever found in Carlsbad.

The new room was named Bifrost by the men who found it. Ron Kerbo has been studying caves for 17 years. He and two other explorers were deep in a deserted area studying how caves form. There they saw a three-foot opening in a wall 60 feet (18 m) over their heads. They climbed up to see where it went.

Inside was the "most beautiful and fragile room" Kerbo has seen. Besides the stalactites and stalagmites usually found in caves, there are colored crystals in the walls. They are orange, red, yellow and brown. Because the rock formations are still growing, the colors are brighter here than other places in the cave.

But if you visit Carlsbad, you won't be able to see Bifrost. It's too far away from the other rooms that tourists are allowed to explore.

—Written by Judy Gordon



Contact Report

Happy Prairie Day! Ever think you'd like to see what life was like on the prairie in pioneer days? If you plan to visit Missouri soon, you might be able to do just that.

On May 21 and 22, the third annual Prairie Day will be celebrated there. Kids—and adults—will get a chance to learn about animals and plants that lived on the grassy prairies long ago. Lucky visitors might get to see a glass lizard, a box turtle or other prairie animals.

Characters from the history books will be represented, too. Dressed in costumes, some folks will play the roles of traders, trappers and pioneer homemakers.

Prairies once covered thousands of square miles. Today, the prairie exists in its natural state only in a few places. One such place is Niawathe in southwest Missouri. That's why the Missouri Department of Conservation wants people to celebrate Prairie Day there this year.

—Written by Richard Thom



On Prairie Day, people learn about life long ago.

Lend a Pet Sure you've checked a book out of a library. But have you ever checked an animal out? You can at the Alexander Lindsay Junior Museum in Walnut Creek, California. To take home a pet for a week, all you need is a library card.

Available for loan are rabbits, rats, hamsters and guinea pigs. The museum supplies cages and instructions for taking care of the animals. You can even buy pet food there.

Local kids seem to like trying out the different animals. One young borrower said, "You can check out a pet, learn all about it and then move onto something else. That's neat."

—Written by Nancy A. Church

What's That? Did you read about some kid who invented an electric nosewarmer? Or one who set some new science record? Then cut out the newspaper or magazine story and send it to us. If we use your story, we'll send you a CONTACT T-shirt. Be sure to include your name, age, address and T-shirt size. You must include the name of the newspaper or magazine. Write to:

The Contact Report
P.O. Box 599
Ridgefield, NJ 07657

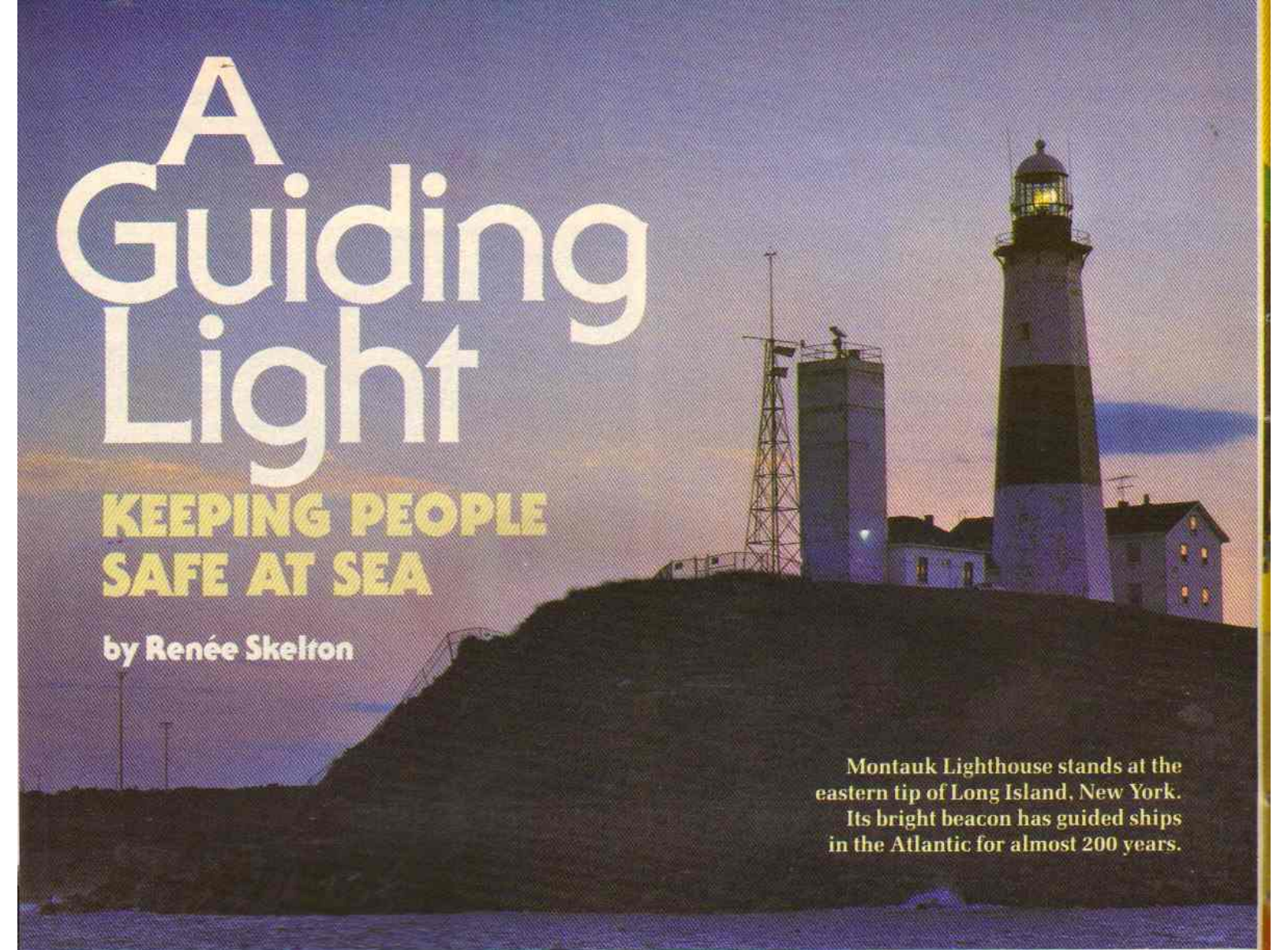


Kids with a library card can check out an animal.

A Guiding Light

**KEEPING PEOPLE
SAFE AT SEA**

by **Renée Skelton**



Montauk Lighthouse stands at the eastern tip of Long Island, New York. Its bright beacon has guided ships in the Atlantic for almost 200 years.

"You've heard of unusual houses. One of the most unusual ones of all is the lighthouse. If you think lighthouses aren't places where real people live, you're wrong. Not as many people live at lighthouses today as they once did years ago. But some still do. One of these people is Paul Driscoll. He is the head keeper of Montauk Light. For him and the three members of his crew, the lighthouse is their workplace and their home.

Paul and his family have been at Montauk Light for four years. Like other lighthouse keepers, Driscoll is in the Coast Guard. He joined 15 years ago. Since then he has done many Coast Guard jobs. He has worked on ships that rescue people at sea. He has been on ships that repair metal buoys along the coast. He was even keeper of another lighthouse, in Massachusetts.

Driscoll may not be rescuing people on the sea now. But by running the lighthouse, he knows he is helping keep people safe in ships at sea.

"You don't always have the reward of pulling a

boat out of the water and saving people," says Driscoll. "But I know from having been on boats how important these lighthouses are."

Watching the Atlantic

Montauk Light is on Long Island, New York. It sits on a sandy hill where the tip of the island sticks out into the Atlantic Ocean. From there the lighthouse beacon can be seen far out at sea. The light tells ships where they are. It also keeps them from getting wrecked on the coast.

Before the lighthouse was built, there were many disasters at Montauk Point. Ships often ran aground. Many lives were lost. So nearly 200 years ago, George Washington ordered the lighthouse built. It has stood on Montauk Point since 1797. That makes it one of the oldest lighthouses in the United States.

Montauk Light is special for another reason, too. It has keepers living in it. Though there are 300 working lighthouses in the United States, only about 40 have keepers. The others work automatically. Gadgets called sun sensors that can tell when it's dark or

cloudy switch the lights on and off. Fog sensors turn on fog horns when there is enough water vapor in the air. There are even machines that change beacon lightbulbs when they burn out.

A few years ago, the Coast Guard thought about turning Montauk Light over to machines. But for now, Driscoll and his crew remain on the job. That's good news for everyone living nearby. "People who get in a jam and don't know who to turn to have a tendency to head up here," says Driscoll. "If there's an emergency, we try to help out."

The keepers sometimes help people who get injured on the beach. At other times they might give a hand to someone stranded on the road near the lighthouse. But most often, they help people who get in trouble at sea.

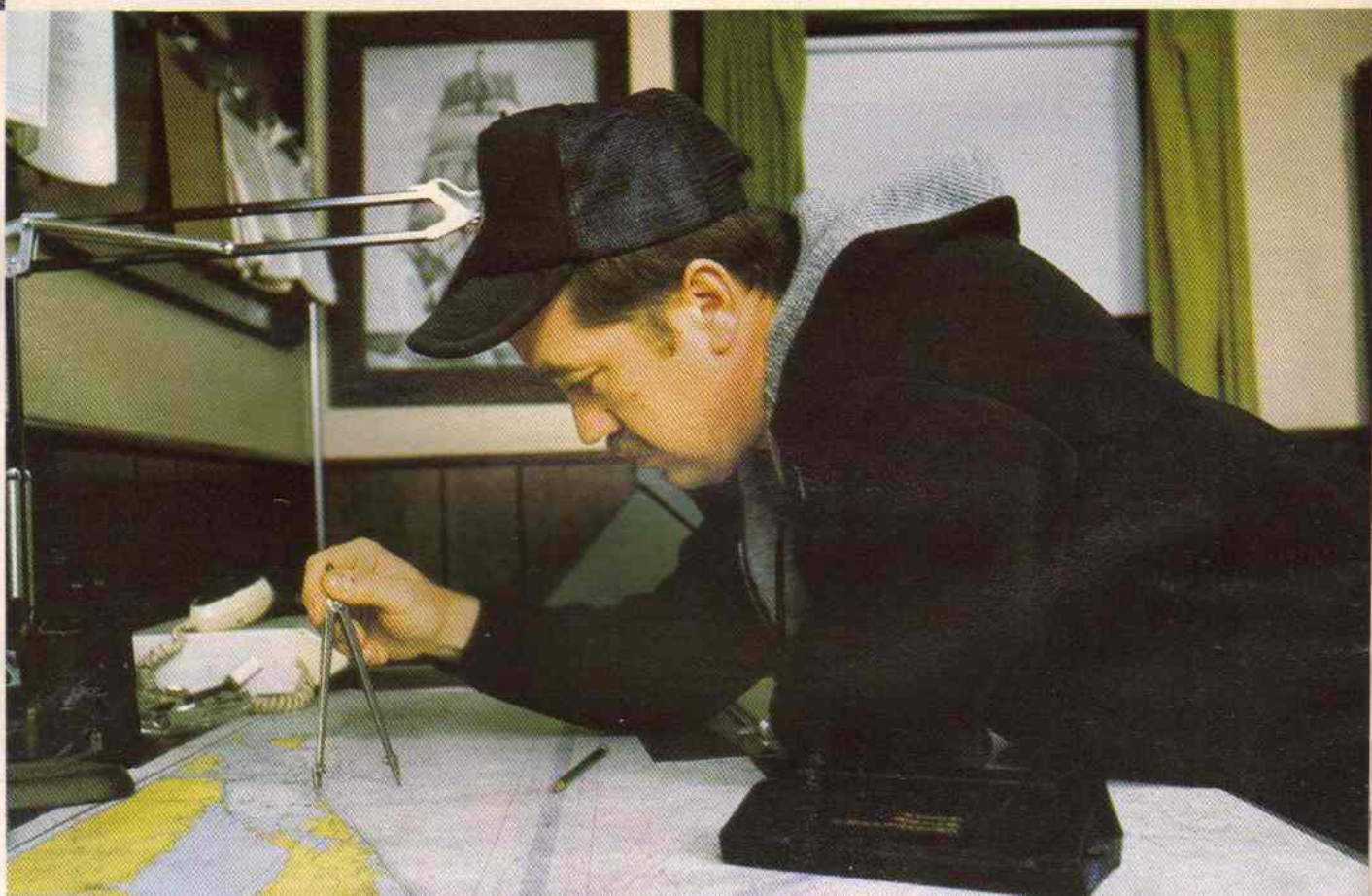
Recently, a lobster boat with six men on board ran aground off Montauk Point during a storm. "Five of the guys we took off with lines and rafts," says Driscoll. "The other guy wouldn't come. It was really nasty. Waves were breaking over the boat. So we had to take turns standing guard all night until a rescue ship came."

A Day's Work

Not every day at Montauk Light is filled ➡



Above: A keeper watches for boats off Montauk Point during a storm. **Below:** Head keeper Paul Driscoll can use radar and maps to locate a boat in trouble off Montauk Point. He can then radio information to rescue ships.



with big emergencies and daring rescues. Usually Driscoll and the other keepers spend the day making sure the light and other equipment is working properly.

Each of the keepers must stand watch for eight hours every day. That often means checking on the light, the fog horn and the radio beacon. In stormy weather they keep a lookout for boats in trouble. They also listen to a special radio band where boats send calls for help.

When they are not busy with other things, Driscoll and the other keepers sometimes give tours of the lighthouse to children. "We take them through the little marine display we have here," says Driscoll. "Then we take them up in the tower in groups and explain the area and some of the history."

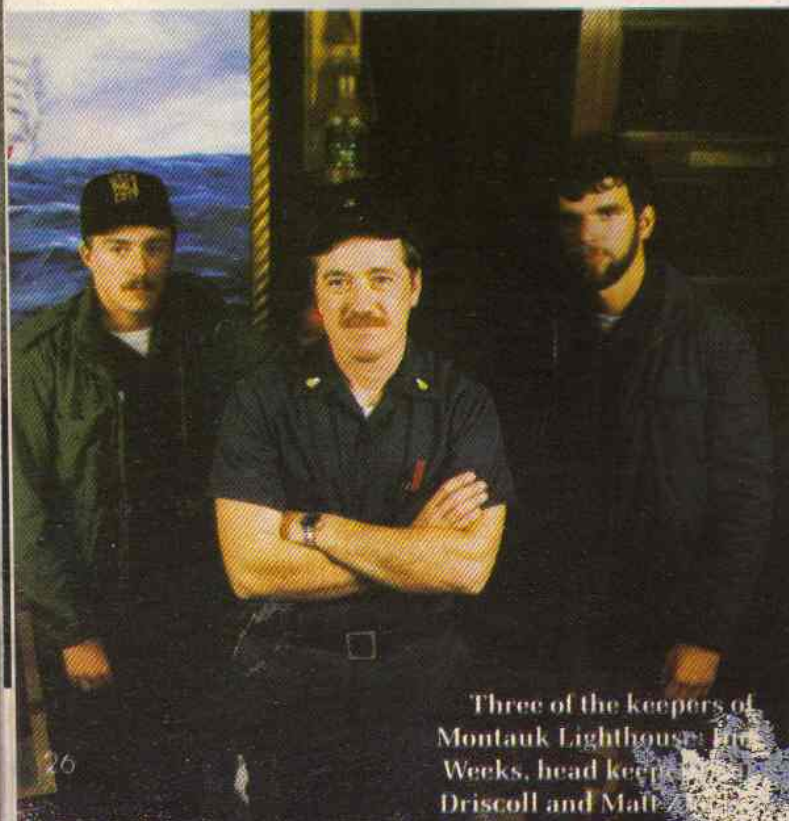
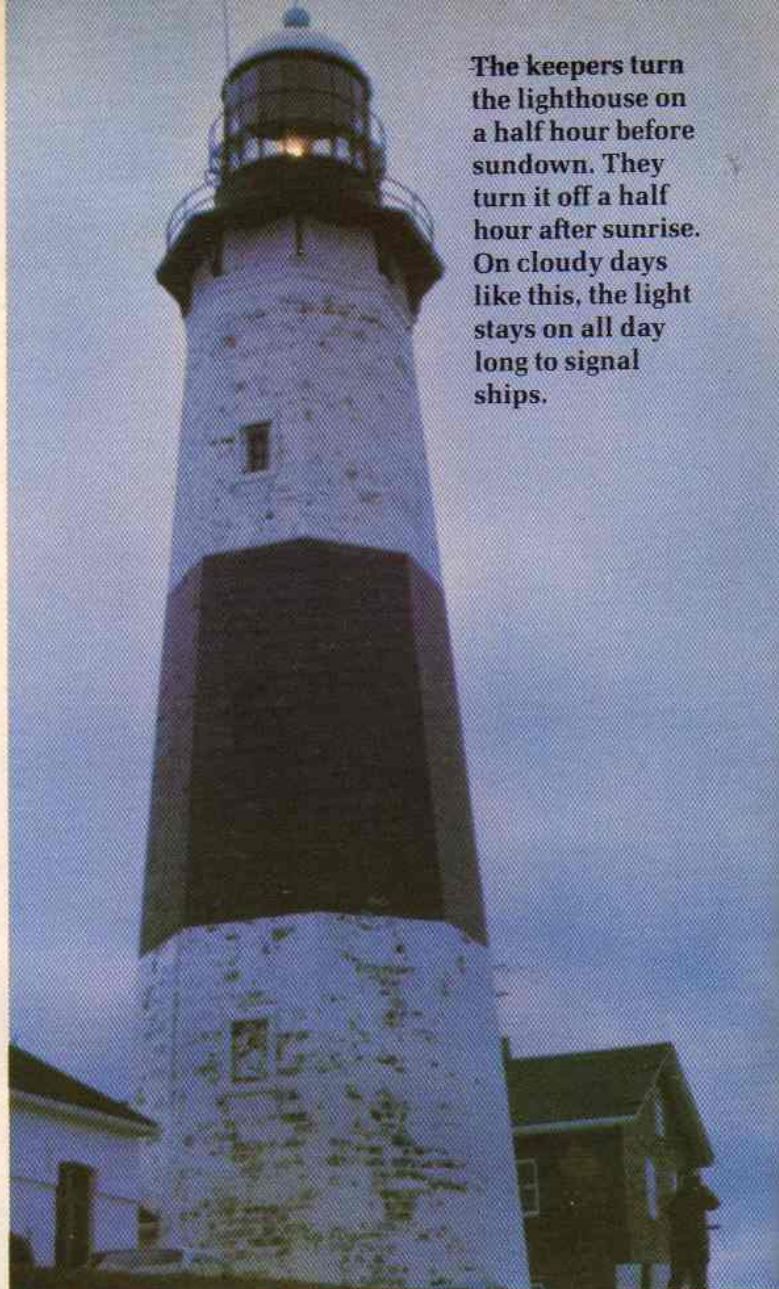
The keepers enjoy showing the children the inside of a real lighthouse. The tour begins at the bottom of the tower. There, a spiral staircase winds round and round up to the top. But the long climb is worth it in the end.

At the top of the stairs is a circular room. Its walls are glass from floor to ceiling. And there is a great view miles and miles out into the Atlantic Ocean. In the center of the room is the huge gold-colored light.

Seeing the Light

The beacon is a 1,000-watt bulb that is magnified by a special lens. An electric motor turns the

The keepers turn the lighthouse on a half hour before sundown. They turn it off a half hour after sunrise. On cloudy days like this, the light stays on all day long to signal ships.



Three of the keepers of Montauk Lighthouse: Eric Weeks, head keeper, Driscoll and Matt

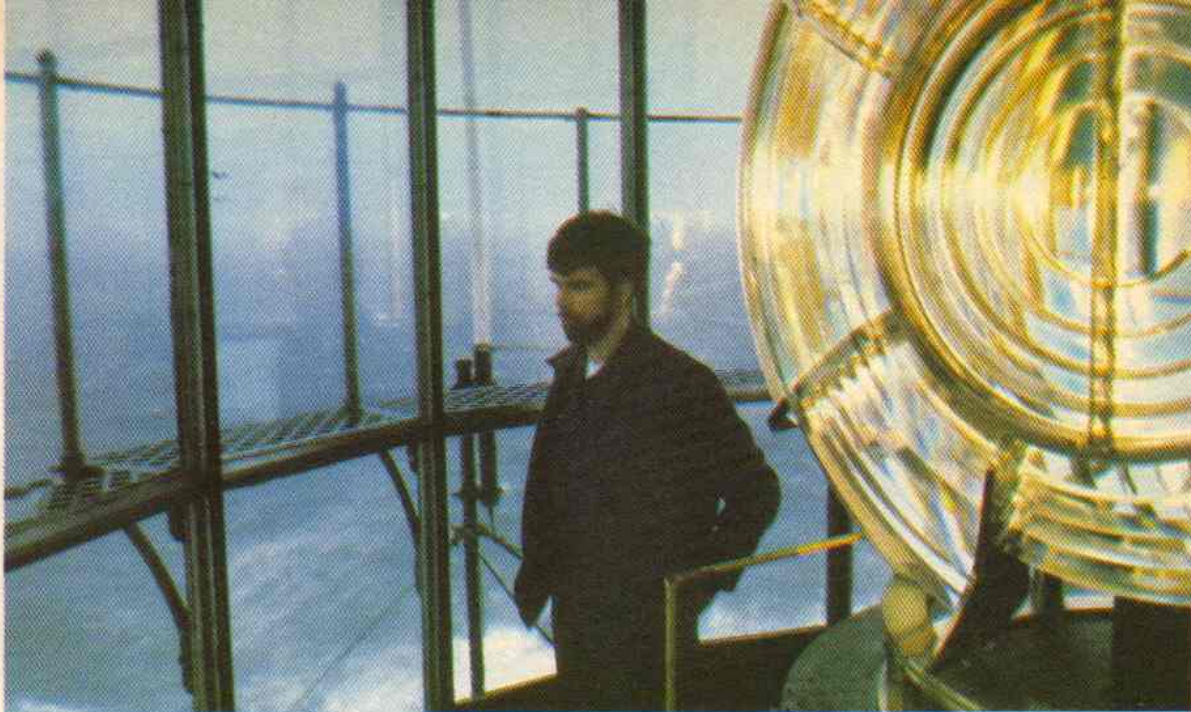
light so that ships at sea see it as a quick white flash every five seconds. That flashing signal is Montauk's *characteristic*. Since each lighthouse in an area has a different characteristic, ships can always tell which light they're looking at. And that's one way they can tell where they are.

Of course, the light is only on at night or in foggy weather. But the Montauk radio beacon is on all the time. A large dish antenna on a hill near the lighthouse beeps out a radio signal every six minutes. The signal, transmitted in the dots and dashes of Morse code, says "Mike Pappa." The M and P in Mike Pappa stand for Montauk Point. Ships 125 miles (201 km) out at sea can pick up the signal. So they know they are near the lighthouse—even before they can see it.

Life at a Lighthouse

In places where there wasn't much land—like

Right: At the top of the lighthouse is the round glass room that holds the beacon. Inside this special lens is a 1,000-watt lightbulb. The lens magnifies it so that the light can be seen 19 miles (30 km) out in the Atlantic Ocean.



on little rocky islands in the ocean—rooms were built for keepers inside lighthouse towers. But Montauk is different. Paul, his wife Linda and their two children live in a house attached to the lighthouse. The other keepers live in another part of the same house. There are also two big dogs and six cats. And Stumpy, an injured seagull that the Driscolls nursed back to health, drops by for meals.

Corey and Carrie Driscoll go to public school a few miles away in the town of Montauk. As you might expect, they are the only children in their classes that live in a lighthouse.

"It's not normal to live in a place like this," says

Corey, whose first home was a lighthouse in Massachusetts. "It's different than any other house. But I like it."

Carrie likes living at Montauk, too. Plus, she says, "Corey and I are alone a lot so we're closer."

Living and working at a lighthouse might not be for everybody. But the Driscolls wouldn't trade it for anything.

"I left the Coast Guard for a while a few years ago and took a job selling insurance," says Driscoll. "I made more money than I ever made in the Coast Guard. But I was heartsick every time I saw a boat. I had to come back. I really love what I do."



Left: To Paul and Linda Driscoll and their two children, Montauk is not just a lighthouse. It is also home. They have lived at Montauk Light for four years.

The Bloodhound Gang



The Case of the Vanishing Lighthouse

Part One

by Lisa Eisenberg

Vikki, Ricardo and Zack, otherwise known as the Bloodhound Gang, chugged through the water in a fishing boat named *The Foggy Dew*. For the tenth time in ten minutes, Zack leaned forward and spoke to the woman at the helm of the boat. "Is it much farther to the lighthouse?" he asked.

Gertie Adams, the owner of the *Foggy Dew*, answered with a chuckle. "Keep your hat on lad," she said. "We'll reach the island in a few minutes."

Vikki and Ricardo looked at each other and rolled their eyes. Zack had gone off the deep end about lighthouses. Ever since they had come to town two days before, he'd been nagging to visit the Port Town Lighthouse. He'd found a thick book called *All About Lighthouses* in the library and had begun carrying it with him everywhere. At last, the Gang's host in Port Town, Chief of Police Bradford, had asked Gertie to make a special trip out to the lighthouse island. Everyone hoped that, once Zack had a guided tour, he would be able to change the subject.

Vikki stretched her arms and looked up at the blue sky. "Oh well," she said. "Lighthouse or not, Mr. Bloodhound was right. Port Town is a great

place to be spending our summer vacation."

Gertie pushed back the hood of her yellow rain slicker and snorted. "It's *usually* great," she said. "Except when the tourists come."

"What's the matter with tourists?" asked Ricardo.

"They're noisy and silly and some are plumb crazy! Take last night. A bunch of them cracked up their boat on Lost Soul Reef outside this harbor. No one's done that for a hundred years."

"Cracked up their boat?" exclaimed Ricardo. "Was anyone hurt? Did they say what happened?"

"The fools were lucky, lad. They got off with a good dunking and a few lost valuables. But the whole thing drove them right off their heads. You should hear the wild story they're telling this morning. All about a vanishing ship and a mysterious stranger helping them—and then disappearing. They even had the nerve to claim they couldn't see the lighthouse beam from their boat."

"Wow!" Zack whispered to Ricardo. "A vanishing ship and a light that wasn't there."

"Did anyone check what happened?" Vikki asked.

"Oh yes," answered Gertie. "Though why he

bothered, I'll never know. Your friend Chief Bradford talked to the tourists this morning. And, even though he thought they were bonkers, he still took a trip out to the lighthouse to talk to the keeper. Old Angus said the beam was shining bright and clear last night. And he should know. Angus McPhee has run that lighthouse since 1938!"

At the Lighthouse

Zack was jumping around and pointing straight ahead. "There it is! The Port Town Lighthouse!"

Vikki looked and saw that the Foggy Dew had almost reached the half acre of barren rock on which the red and white lighthouse had been built. "What does a lighthouse do, Gertie?" she asked.

"Well everyone knows that, Vikki," said Zack. "The light warns sailors that land is near. And it points out dangerous reefs and rocks."

"And don't forget, lad," put in Gertie, "that the signal beam of a lighthouse can tell sailors exactly where they are along the coast."

"Exactly?" said Ricardo. "How can that be?"

Zack pulled out *All About Lighthouses*. "It's right here on page 17," he said. "It says: 'Unfortunately for sailors, it is easy to mistake the beam of one lighthouse for that of another. One solution might be to make different lighthouses use different colored lights. But, when you shine a light through a colored lens, the loss of strength is tremendous. With red colored glass, for example, 70 percent of the light's power is lost.'"

"So," Ricardo broke in, "how do they make the lighthouse beams look different?"

"Uh... that's in here somewhere..." said Zack, rifling through his book.

Gertie laughed and spoke over her shoulder. "They do use some colors, but mostly they use different patterns of flashing beams," she explained. "One lighthouse might flash its light every 10 seconds, while another flashes every 30. And so on, up and down the coast."

The boat came next to the rock island, and Vikki, Ricardo and Zack jumped out onto a set of stone steps. Gertie explained that she had to leave to run errands but said that old Angus loved visitors and would be happy to show them around. She would be back for the Gang in an hour.

"This is so exciting," bubbled Zack as they climbed up toward the lighthouse. "This is one of the few lighthouses that still has a full-time keeper.

Most lighthouses today have an electric eye built into them. When daylight fails, a radio beam activates the light and it automatically starts flashing."

"Do tell," said Ricardo dryly. "What did you do—memorize that whole lighthouse book?"

"No," said Zack. "But that's not a bad idea. Then I wouldn't have to lug it around with me."

Vikki and Ricardo groaned and kept on climbing. When they reached the top of the steps, Vikki walked to the lighthouse door and pulled it open.

"Mr. McPhee!" she called. There was no answer, but a muffled thump came from above.

"He must be upstairs," said Ricardo.

In the Lantern Room

As the Bloodhound Gang started climbing a narrow spiral staircase, their footsteps rang out on the hard metal steps. After they'd wound up through an entrance room, store room and living room, they stopped to catch their breath in the keeper's bedroom. Ricardo leaned back against a triple-decker bunkbed. "The keeper of this place must be in good shape," he gasped.

Zack was already scampering on up the steps. "I can't wait to see the light!" he called. Ricardo and Vikki sighed and followed him up.

When the trio reached the lantern room at the top of the tower, their eyes widened. The lantern assembly was over 15 feet tall and must have weighed at least seven tons. Ricardo pointed at the lantern in the center of the room. "All right, Dr. Lighthouse," he said to Zack. "What are all these funny rings of glass around the light for?"

"An excellent question," Zack said. "Perhaps a little bit of history will help you understand. You see..."

"Oh brother!" Ricardo began. "You..."

"You *did* ask a question," Vikki laughed. "Now let the professor answer it!"

"You see," Zack went on, "the earliest harbor warning lights were really just big fires built on shore. But, as you may or may not know, light rays go out in all directions from their source. So these fires sent half their light out behind them—where it was wasted."

"I don't care what he says, Vikki," interrupted Ricardo. "He *did* memorize that book!"

Zack ignored him. "The problem, then," he went on, "was how to channel *all* the light in the right direction—out toward the ocean where boats

could see it. The first lighthouse builders tried enclosing the light inside a lantern. Later, mirrors were put behind the lantern to bounce, or *reflect*, the light out to sea. But then, in the early 1800s something new was developed."

Zack paused and pointed dramatically at the barrel-shaped lantern. "Prism-shaped lenses were put all around the lights. A prism is a specially shaped optical glass that has the power to bend light—in order to send it out in the right direction to form one powerful beam. This heavy prism lens revolves around the light and..."

"Hush," said Vikki. "Someone's coming."

The light tread of hurrying footsteps sounded from a level below. Suddenly, a large shadow filled the arched entranceway, and a burly, middle-aged man burst into the room. He had shaggy black hair, a thick black beard and small brown eyes.

"Hi, Mr. McPhee," said Zack. "We were just having a look at your lantern room. Tell me, is this beam an occulting or a flashing signal?"

"Don't rightly know," muttered the keeper. "You kids get on out now. I got some repairs to make."

The Gang Is Suspicious

Vikki took Zack's arm and dragged him toward the stairway. "Sorry if we got in the way, Mr. McPhee," she said. "We'll just go downstairs and wait for Gertie."

Back outside the lighthouse, the Gang sat down to wait for the Foggy Dew. "Wow," said Zack. "Living out here sure had made old Angus crabby."

"Old Angus sure was strange," said Ricardo. "It makes me wonder if those tourists on the wrecked boat weren't completely crazy when they claimed there was something wrong with the lighthouse beam last night."

"I had the same idea," said Vikki. "And I've just thought of a way to check it out. We're going out sailing tonight. After we talk to a few 'plumb crazy' tourists!"

Several hours later, the Bloodhound Gang was cruising the rocky coast in a gleaming white cruiser that their friend Chief Bradford had borrowed from a wealthy Port Town banker. Their captain was Gertie Adams' tall, silent son, Seth.

"How'd I let you kids talk me into this?" grumbled the Chief. "First you say we have to go out sailing in a fancy boat. And then you insist on coming out in the middle of a rainstorm!"

The cruiser rose up on the crest of a wave and then dropped suddenly. "I told you, Chief," Vikki gasped as she clutched the railing. "We think the wreck of that fancy boat last night may not have been an accident. We spent the afternoon talking to the people on that boat and..."

"I talked to those looney landlubbers, too," the Chief bellowed over the wind. "Crackpots!"

"Well, they're rich crackpots," said Ricardo. "and they lost more than a few valuables. They lost money, jewels and radio equipment."

"So," said Zack, "we thought that if we went out sailing in a fancy boat that looked like it might have real money on board—we'd bait the hook!"

A huge wave crashed over the railing and flooded the deck. "We can't stay out in this," shouted the Chief. "Seth! Put in to shore!"

"Can't!" yelled Seth. "Can't see the lighthouse. Can't find the harbor!"

Zack pointed off the port side. "There's the light of a ship. The harbor must be in there!"

Seth swung the wheel and the cruiser headed toward the distant bobbing light. But suddenly, the wavering beam flickered and vanished. At the same instant, a grinding noise filled the air. A loud crack sounded from the bottom of the boat.

"Hold on everybody," Seth shouted from the helm. "We're about to wreck!"

Will the Bloodhound Gang's boat be wrecked on Lost Soul Reef?

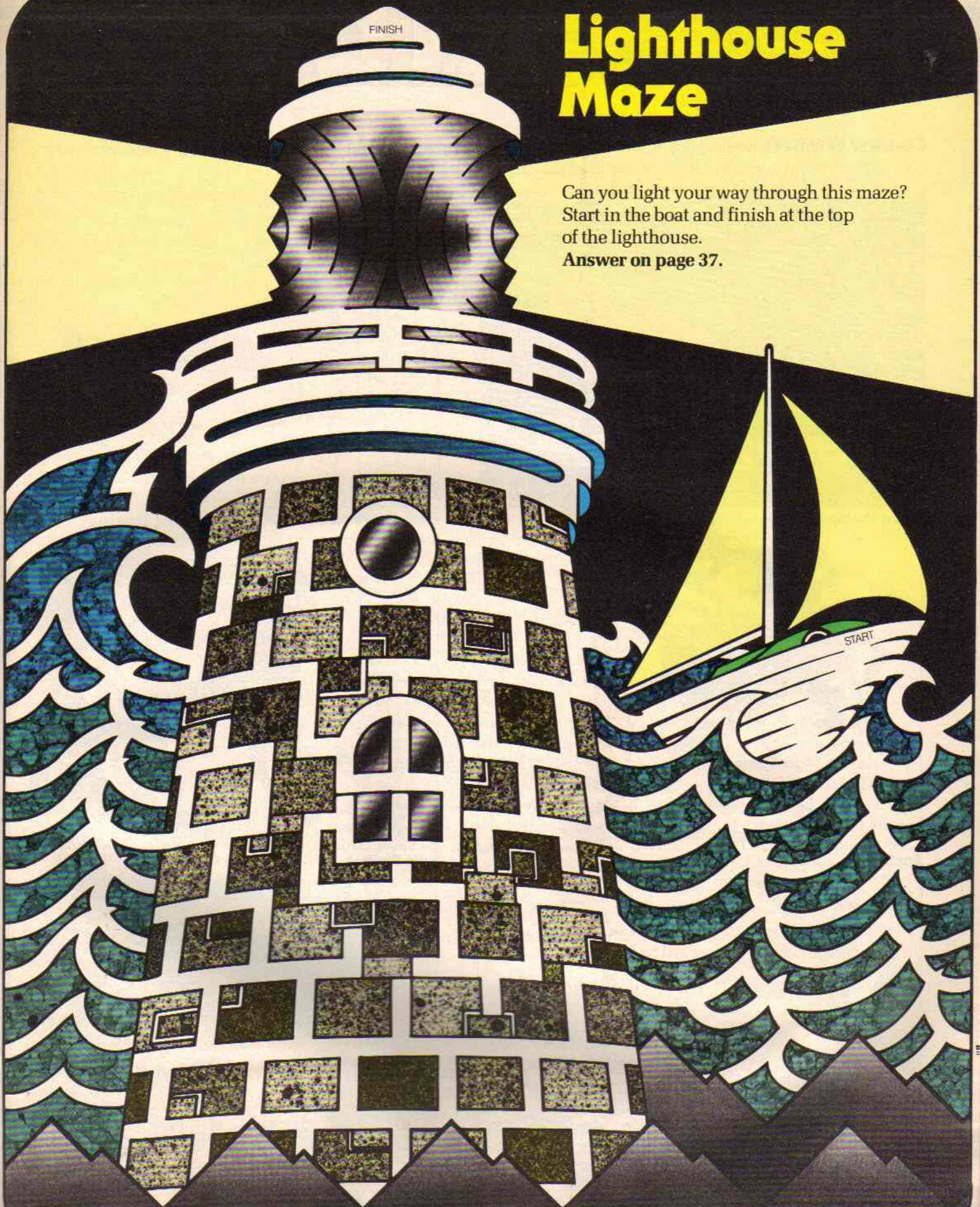
Find out next month in the conclusion of "The Case of the Vanishing Lighthouse."



Lighthouse Maze

Can you light your way through this maze?
Start in the boat and finish at the top
of the lighthouse.

Answer on page 37.



MAIL

Contest Winners Remember when we gave you some clues describing an imaginary sea creature? Here are our favorites from the pictures we got.



Gwen Thompson, Mountainside, NJ



Katie Hawkins, Reno, NV



Eric Schultz, Rowayton, CT



Julie Pfeiffer, Ashville, OH



Kyle Druckmann, Danbury, CT



Danny Northrup, Amsterdam, NY

Letters

Mechanical Helpers

Dear CONTACT,

I am eight years old and I am very interested in robots. I saw a picture of a robot that is completely mechanical and talks and answers questions. It can walk and move its limbs. Can you please send me some facts and figures on some of these mechanical robots?

John Kunkiewicz
Torrington, Connecticut

Dear John,

We're not going to give you facts and figures. We're going to give you a whole story on robots. There's one drawback, though. You'll have to wait until next month to read it.

In the June 1983 issue of CONTACT, you'll find a feature on home robots. We'll tell you what, if anything, robots will do for you in the future. For example, you'll be able to program robots to play games with you and even do your homework. But it will be quite a while before a robot will be able to clean up your room!

Take a Chance

Dear 3-2-1 CONTACT,

I do not know if you will answer me, but I might as well take a chance. I would like to be one of your reporters. Is that possible? I am 11 years old and I'm planning to become a journalist. I would greatly appreciate an answer from you.

Pam Reichlin
Jericho, New York

Dear Pam,

It pays to take a chance and we're glad you did!

All the people who write for our magazine are professionals. But we do like our readers to get a few words in. That's why we print things like letters and mail.

But there are a couple of things you could do to get practice as a reporter. For one, keep on the lookout for nifty science stories in other magazines or newspapers. Send them to us and we might use the ideas for the Contact Report.

And if you really want the chance to write for us, visit a science museum. If you send us a short story about it, you might see it in Reviews & Previews. You'll be getting a head start on a career in journalism, and maybe you'll win a T-shirt, too!

Question of the Month

Dear 3-2-1 CONTACT,

Why are there are so many numbers and letters on the mailing label on the magazine?

Ben Bridgman
Madison, Wisconsin

Dear Ben,

Those extra letters and numbers weren't put there at random. They all stand for something. Take a close look at the label here. You can see what the numbers and letters mean.

Each one of our thousands of readers has his or her own set of identification numbers and letters. That way, our computer has no trouble keeping track of you.

Mail Tale

Dear 3-2-1 CONTACT,

Could you please tell me how I could find out what to draw a picture of for Mail? And I really enjoy your magazine.

Christie Pesola
Marquette, Michigan

Dear Christie,

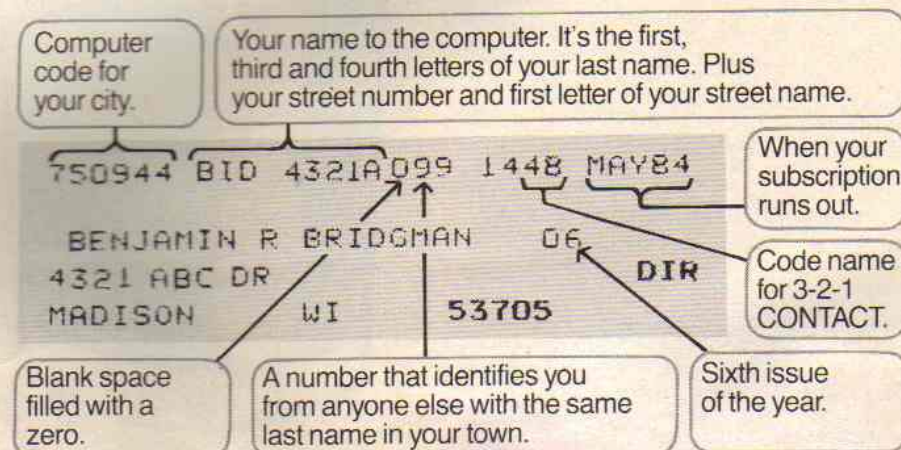
If you're reading this, the answer to that question is right in the palm of your hand. The pictures and stories we print on our Mail pages are contest winners. Each month you can find another "3-2-1 Contest" in the Reviews & Previews department. To find out what this month's contest is and where to send your entry, just turn the page.

We Want Mail!

Dear Readers,

We really love hearing from you. The questions, ideas and complaints we get help us make CONTACT a better magazine. So why not drop us a line? We can't answer every single letter, but we do read them all. Write to:

3-2-1 CONTACT: Letters
P.O. Box 599
Ridgefield, NJ 07657





Want more information on some of the things in this CONTACT? Or just something to do and see for fun? Keep reading!

Mountain High

Remember in Any Questions? we told you how mountains form? You can find mountains all over the United States, but some are much higher than others. Here is a list of nine regions of the U.S. with the highest mountains in each one. See if you can spot the parts

of the country with the tallest mountains.

Region	Highest Mt. & State It's In	Height In Feet
Alaska	Mt. McKinley (AK)	20,320
Pacific Coast	Mt. Whitney (CA)	14,494
Rocky Mountain	Mt. Elbert (CO)	14,433
Hawaii	Mauna Kea (HI)	13,796
Southwest	Wheeler Peak (NM)	13,161
Great Plains	Harney Peak (SD)	7,242
Southeast	Mt. Mitchell (NC)	6,684
Northeast	Mt. Washington (NH)	6,288
Midwest	Mt. Curwood (MI)	1,980

Good Vibrations

In Any Questions? we told you how vibrating air makes the sound of the sea in seashells and the music of instruments. Now, here's a trick for you to try: get vibrating air to make a glass "sing."

1. Fill a thin glass half way with water.
2. Wet your finger and run it slowly around the top edge of the glass.

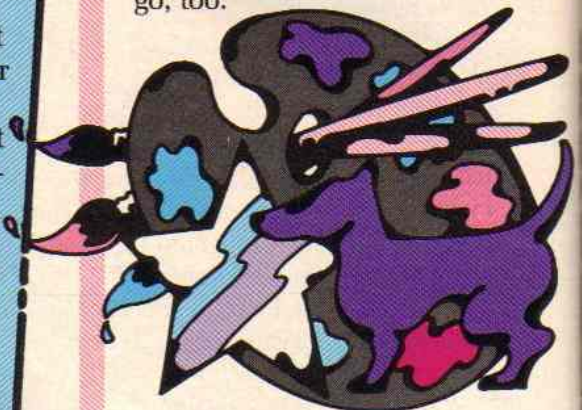
When everything is perfect, the glass will vibrate and cause the air around it to vibrate, too. You will hear a tone from the glass.

It may take a while to get this trick working. Try rubbing fast, then slow; hard, then more softly. Be patient and, eventually, you should get just the right touch.

Stars, Pets and Colors

This review was sent in by Michele Ballard, Murfreesboro, TN.

Recently I visited the Cumberland Museum and Science Center in Nashville, Tennessee. It has a planetarium where they show what the stars look like and some planets, the galaxy and the whole Milky Way. They have different displays every other month. When I was there they had a display of antique toys, some of which kids can play with. I got to watch a man who showed us how to do different things with colors. They have a place you can learn about and pet wild animals. It's a great place for kids but adults like to go, too.



Been to a science museum? Why not write a review for CONTACT. If we use it, you'll get a T-shirt. Send your review, name, address and T-shirt size to:

3-2-1 Contact: Museum Review
P.O. Box 599
Ridgefield, NJ 07657



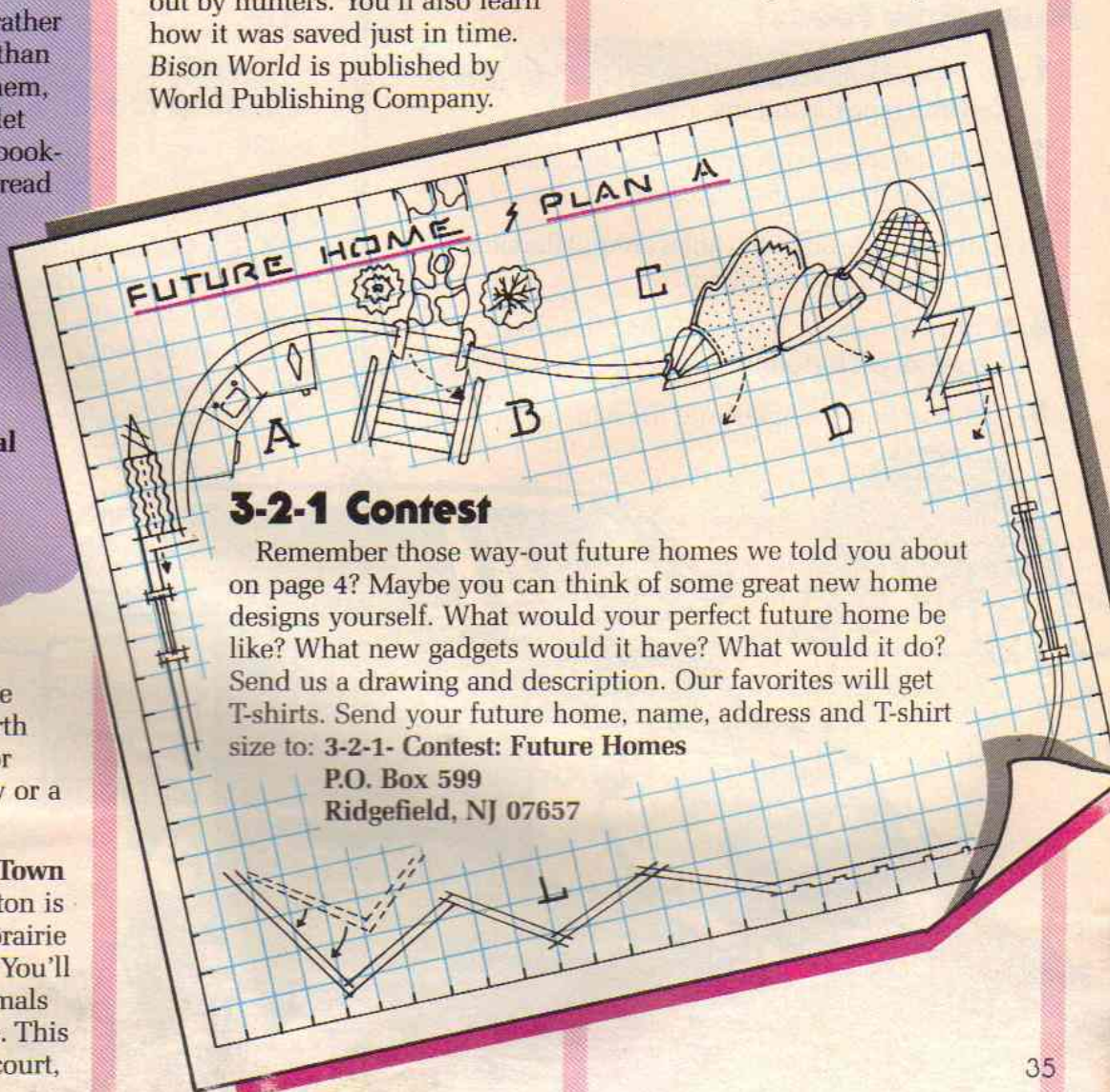
Prairie Animals

Come Visit a Prairie Dog Town
This book by Eugenia Alston is about one of the smaller prairie animals—the prairie dog. You'll meet a group of these animals and find out how they live. This book is published by Harcourt,



Wonders of the Bison World

The Pronghorn The pronghorn is an unusual animal that is only found in North America. Pronghorns once lived on the western edge of the prairie. Today, they too are in danger of disappearing. Find out about them in this book by Iona Seibert Hiser. It's published by Steck-Vaughn Co.



Experiment

Tweeter Feeder

You've read how animals are fed at the zoo. Now you can feed animals where you live—even if you don't have a pet. Just make this simple bird feeder.

What You Need

- | | |
|-------------------------------|-------------------|
| 1 empty cardboard oatmeal box | 1 wire hanger |
| aluminum foil | scissors |
| scotch tape | breadcrumbs, |
| 2 aluminum pie plates | nuts, seeds, |
| | raisins, popcorn, |
| | cookies |

Making the Feeder

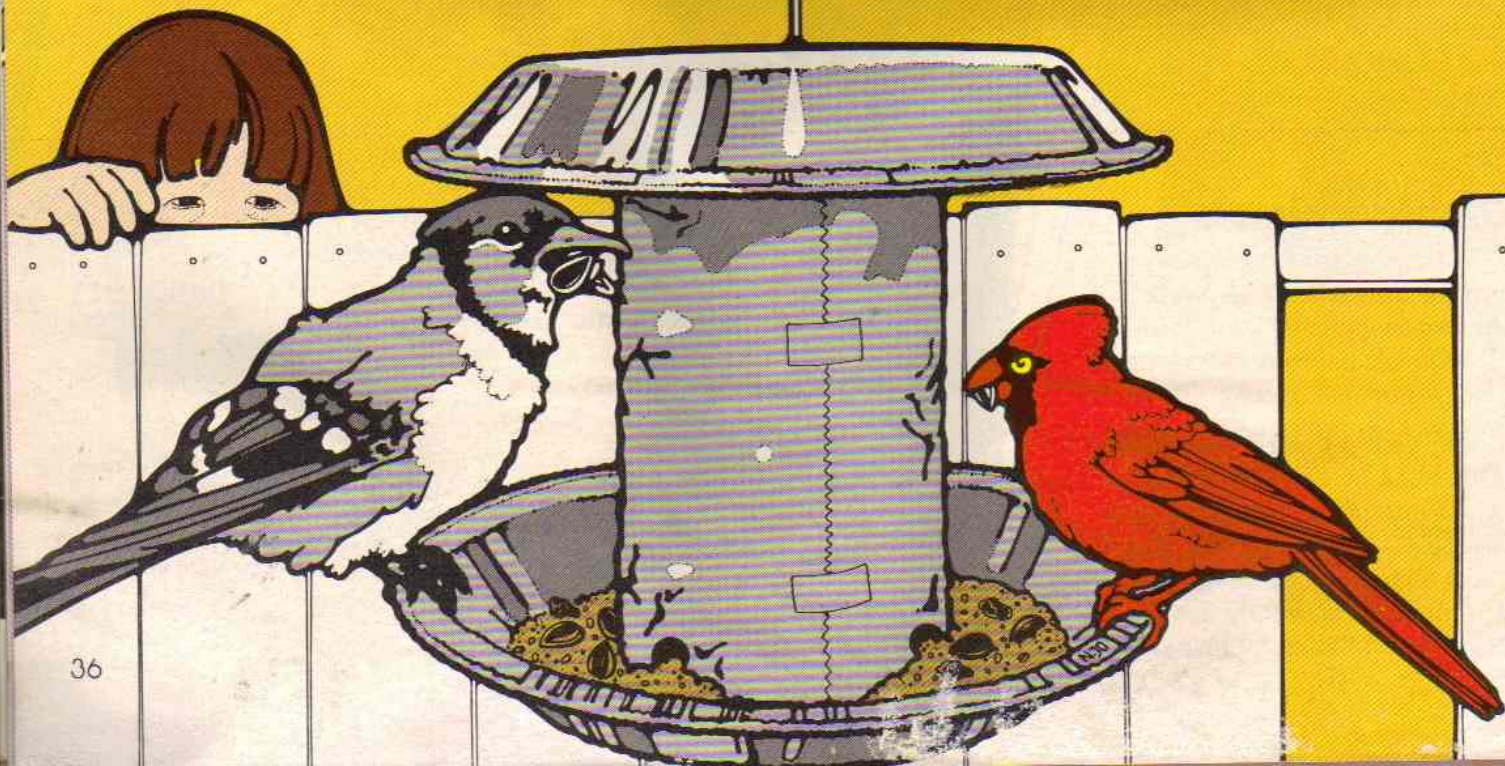
1. Remove the top of the box. Cover the box with foil and tape the foil into place.
2. With the scissors, put a small hole in the center of the bottom of the box.
3. Cut four large one-inch holes around the sides of the box near the bottom.
4. With the scissors, punch a small hole in the center of each aluminum plate.
5. Untwist and straighten out the wire hanger.

6. Slide one plate onto the wire through the small hole. Twist the end of the wire into a circle under the plate. This holds the plate up.
7. Slide the oatmeal box onto the wire so it rests on the plate. Open end should be up.
8. Put the bird food into the box.
9. Slide the other aluminum plate onto the wire. It should be upside down and cover the top of the box.
10. Hang the feeder from a tree or some other place where you can see birds come to it.

Making the Bird Food

See what kind of bird food you can mix up from things around your house. Try sunflower seeds, pieces of different kinds of nuts, bread or cookie crumbs, popcorn bits, raisins, or anything else you think birds would like. Make sure everything is small enough to fit through the holes in the box.

See which foods the birds like best. Watch to see what kinds of birds—or other animals—come to get the treats you've left for them.



Did It!

Menu Match (page 16)

1. COCKATOO
2. POLAR BEAR
3. GORILLA
4. TIMBER WOLF
5. PANDA
6. IGUANA
7. LION

Lighthouse Maze (page 31)



Credits

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Thank You Thanks to Paul Driscoll, Linda Driscoll, Jeff Cole, Jim Weeks and Matt Zlocki of the Montauk Light Station for their help with the lighthouse story.

Next Month!

Here's a sample of what you'll find in the next issue of 3-2-1 CONTACT:

Real Life Robots

The latest news about those mechanical helpers.

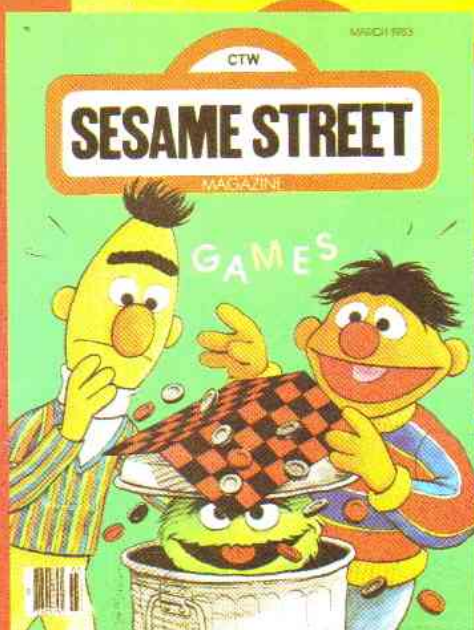
Short Stuff

Find out about miniature horses and read about some other short animals.

Bloodhound Gang

What will be the exciting conclusion to "The Case of the Vanishing Lighthouse"?

Plus Factoids, a Poster, Mail and Much More!



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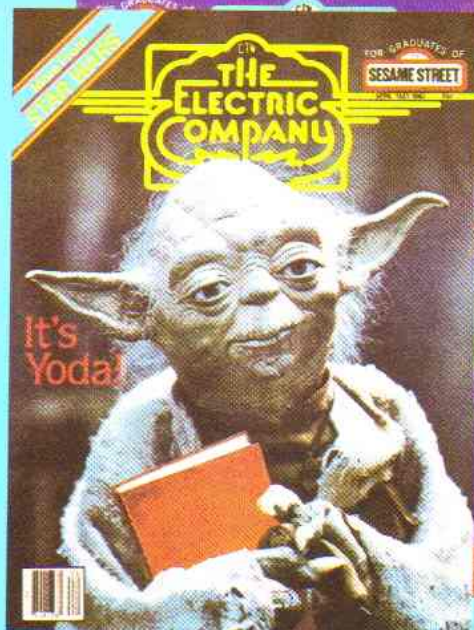
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Earthfacts: Prairies

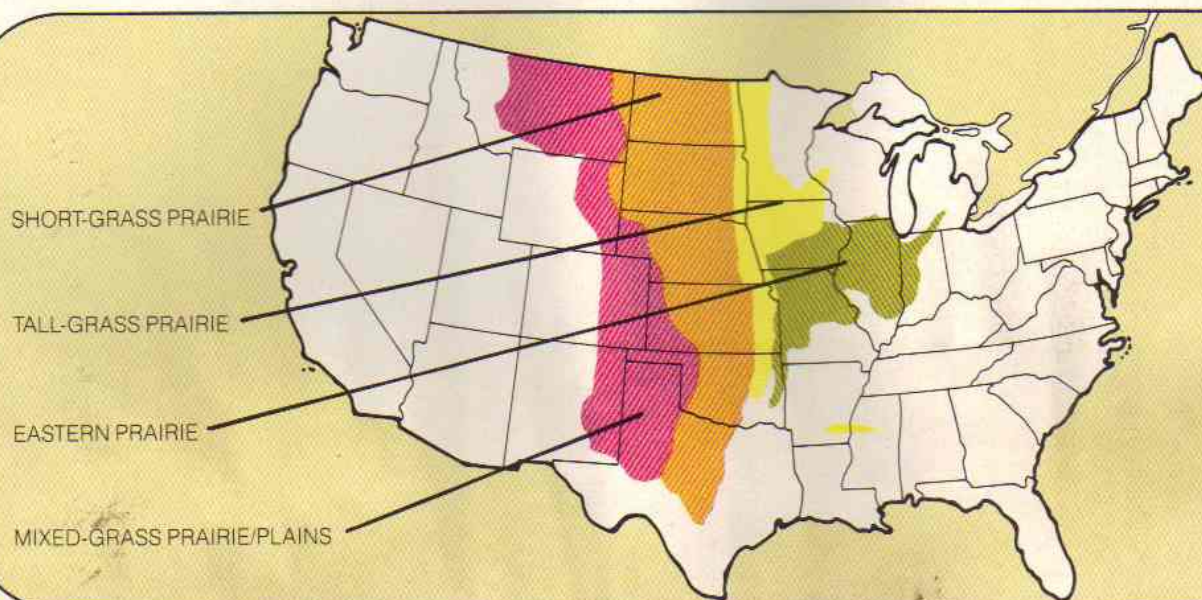
by Renée Skelton

Each month CONTACT will bring you another *Earth Works*. Save these pages in a notebook. Soon you will have your own guide to the wonders of the planet Earth.

EarthWorks

- ☉ Prairies are flat or gently rolling lands covered with tall grass. But prairie grass isn't the average garden kind. This grass is taller than you—often eight feet (2.4 m) high!
- ☉ The tall prairie grasses have roots that grow six feet (1.8 m) into the ground. The dense tangle of plant roots and decayed plants in prairie soil form sod. Because there were no trees on the prairie, some early settlers cut the sod into blocks and built their houses with it. The houses were called *soddies*.
- ☉ So why doesn't the prairie have trees? One reason is that the climate and the soil aren't right for them. Another reason is fire. For thousands of years, fires have swept across the prairie. Some were started by lightning, some by people. Each fire killed all plants. Grasses came back quickly after each fire. But large plants like trees didn't have time to grow and develop.
- ☉ Cool, dry air from the north and warm, moist air from the south meet over the American prairie, creating some of the world's harshest weather. There are fierce thunder and hail storms, and the greatest number of tornadoes of anyplace on earth.
- ☉ Because of the lack of trees, many animals that live in trees elsewhere make their homes in the ground on the prairie. Mice, squirrels, and even some birds burrow into the ground.
- ☉ The most famous burrowing animals of the prairie are prairie dogs. They live in mazes of underground tunnels sometimes many miles long. Not as many prairie dogs are left. But 100 years ago, there were *millions* of them. Their tunnels were under thousands of square miles of the prairie.
- ☉ The buffalo is the largest prairie animal. It can stand six feet (1.8 m) high at the shoulder. Thousands once roamed the prairie, but settlers who came in the 1800s almost wiped them out. Luckily, these animals are now making a comeback.
- ☉ Because the American prairie is so good for growing food and grazing animals, there are not many areas of natural prairie left. Much of the tall grass has been cut down. Many native prairie animals have been killed or forced into other areas.

Below: Tall *prairie* grasses are in the east where there is more rain. Shorter grasses grow in the west on the drier plains. In most places, people have replaced the natural grasses with others. The tall-grass corn is planted on the eastern prairie; the short-grass wheat on western plains.





EarthWorks

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Prairies

Thousands of years ago, American Indians settled the prairies. In the 1700s and 1800s, people from the eastern United States joined them. To the newcomers who had left homes in the eastern forests, the prairie was a strange land. It was flat and there were no trees—just tall grass as far as the eye could see. Many continued west, thinking the prairie was a barren and monotonous place. But some stayed and found the prairie is fertile and full of life.

For more on prairies, turn to page 39.

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